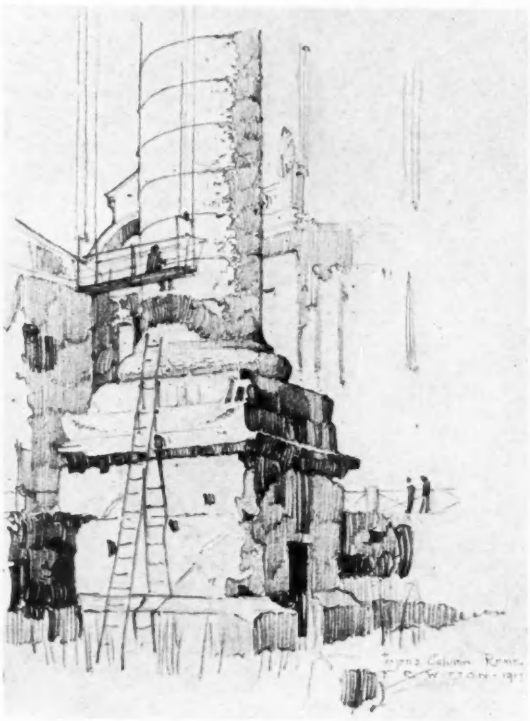
THE AMERICAN ARCHITECT

VOL. CXIII WEDNESDAY, JANUARY 30, 1918 NUMBER 2197

The Rotch Traveling Scholarship

The illustrations are reproduced from a series of Drawings by Frederick R. Witton, (now in France), winner of the 1915 Scholarship

THE Rotch Traveling Scholarship was founded in 1883 by the children of Mr. Benjamin Rotch, a characteristic Boston merchant. One of his sons, Mr. Arthur Rotch, was a student of architecture at the *Ecole des Beaux Arts* in 1878 and 1879, during which time he won for himself a considerable reputation among his fellow students as an earnest, hard worker and a brilliant water-colorist. He traveled very extensively throughout Europe, wrote some very interesting letters for THE AMERICAN ARCHITECT, and when he returned to Boston, his native city, about 1880, he was speedily able to win for himself a position of influence and respect in his profession in association with Mr. George T. Tilden, under the firm name of Rotch & Tilden.



FROM A PENCIL SKETCH BY FREDERICK ROY WITTON

In 1883 there were no prizes in architecture open to students in this country. Schools of architecture existed at the Institute of Technology, Cornell and Illinois, but they were only in their beginnings. The flood of American students towards the *Ecole des Beaux Arts* was just beginning. During 1879, for instance, there were less than ten architectural students in the *Ecole des Beaux Arts*, whereas in 1914 they were numbered by the hundreds. The profession of architecture was just beginning to find itself, but had not yet developed any individuality or personality in design, and the modern construction was absolutely unknown, so that the endowing of the Rotch Traveling Scholarship followed by only a few years the renaissance of architecture in 1876, and the scholarship was not only the first of its kind, but to this day is still the most important prize within the reach of the young architect.

The Rotch heirs contributed the sum of $50,000, which was placed in the hands of trustees, who at once invited the co-operation of the Boston Society of Architects, to whom was entrusted the direction of the scholarship, first for a period of five years and subsequently for an indefinite period, so that from the beginning the affairs of the scholarship, as far as relates to the students and their work, have been under the direction of a committee of the society. This committee has at times included such men as Arthur Rotch, Robert S. Peabody, Edward C. Cabot, Charles A. Cummings, H. Langford Warren and many others of the best minds of the profession in Boston.

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XUM

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According to the specific deed of trust the income from the funds was to be used for the encouragement of architecture by travel and study abroad, and its benefits were limited to young men under thirty who had passed at least two years in the office of an architect in Massachusetts. The process of selection consists in a preliminary examination in history of architecture, construction, French and drawing, those who qualify in this examination being admitted to a final competition in design for a building on a large program.

The first competition was held in the spring of 1884, at a time when architectural practice was by no means so clearly defined as it is now and standards of planning and design were still in process of evolution. It is interesting, therefore, in going over the awards which have been made during the thirty-four years of the scholarship to note how uniformly the selection has been made, following similar lines. In each case the jury is told that it can make such rules as it pleases and can arrive at a selection in such manner as seems to it to be most justified. The jurors have been men varying widely in their points of view and in their personal desires, and during these years the whole ideals of the profession have received very material modifications, and yet in every instance it has seemed perfectly clear that the jury has approached the problem in practically the same manner.

The awards are made public at the first meeting of the Boston Society of Architects in May of each year. The winner of the scholarship is expected to go to Europe within three months thereafter and to spend at least two full years in travel and study abroad, returning in season to report to the Society of Architects at the first meeting in October. The committee places almost no restriction upon what the student shall do and study.

The good that the scholarship has done to the profession is not measured simply by the opportunity it has afforded the individual holders. Each year

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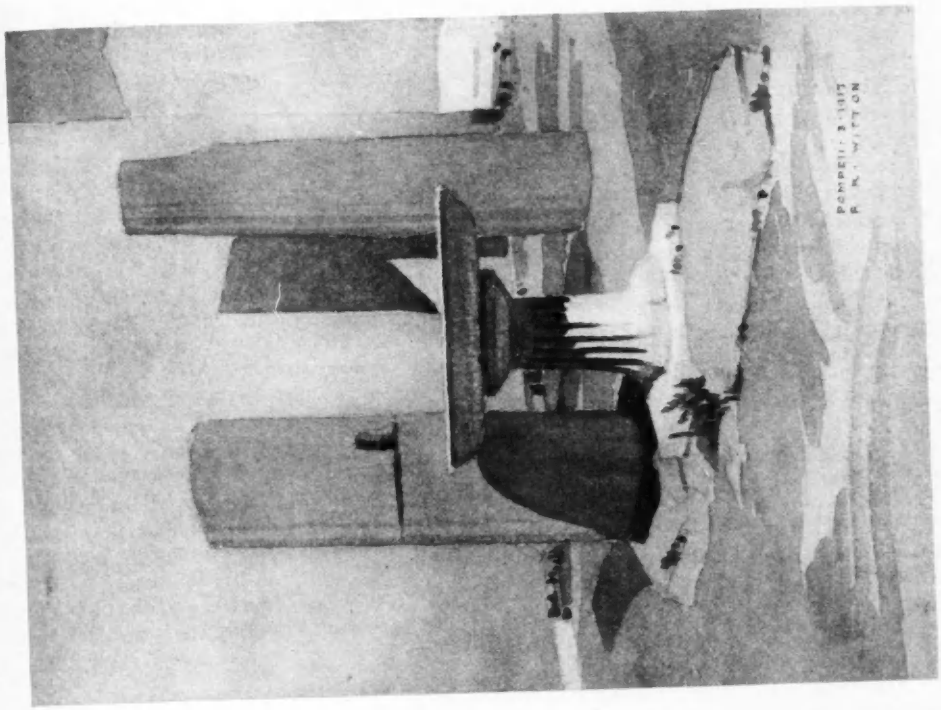
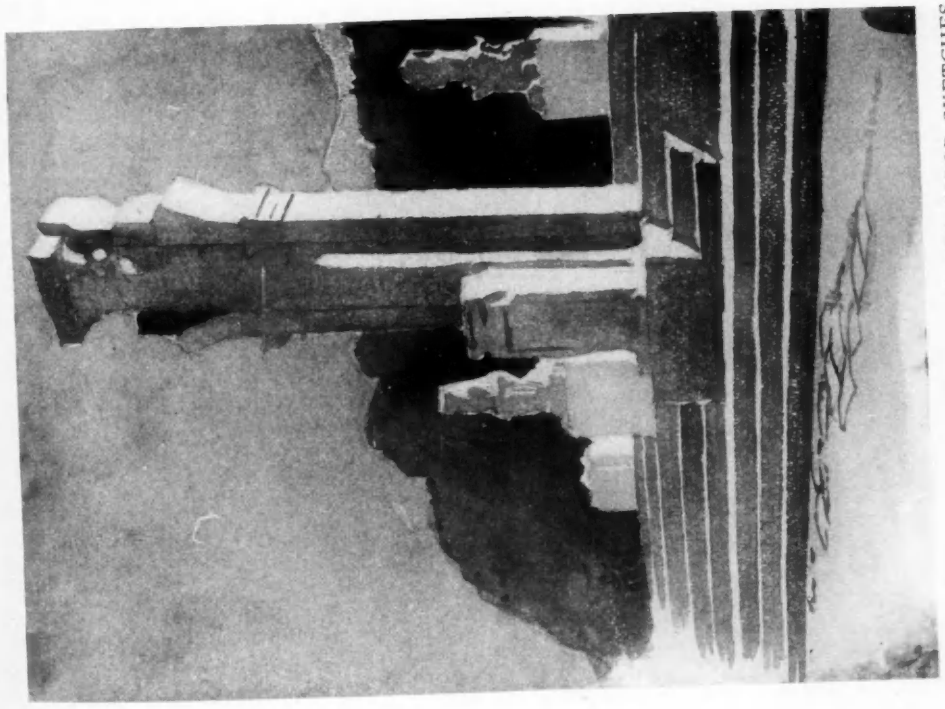
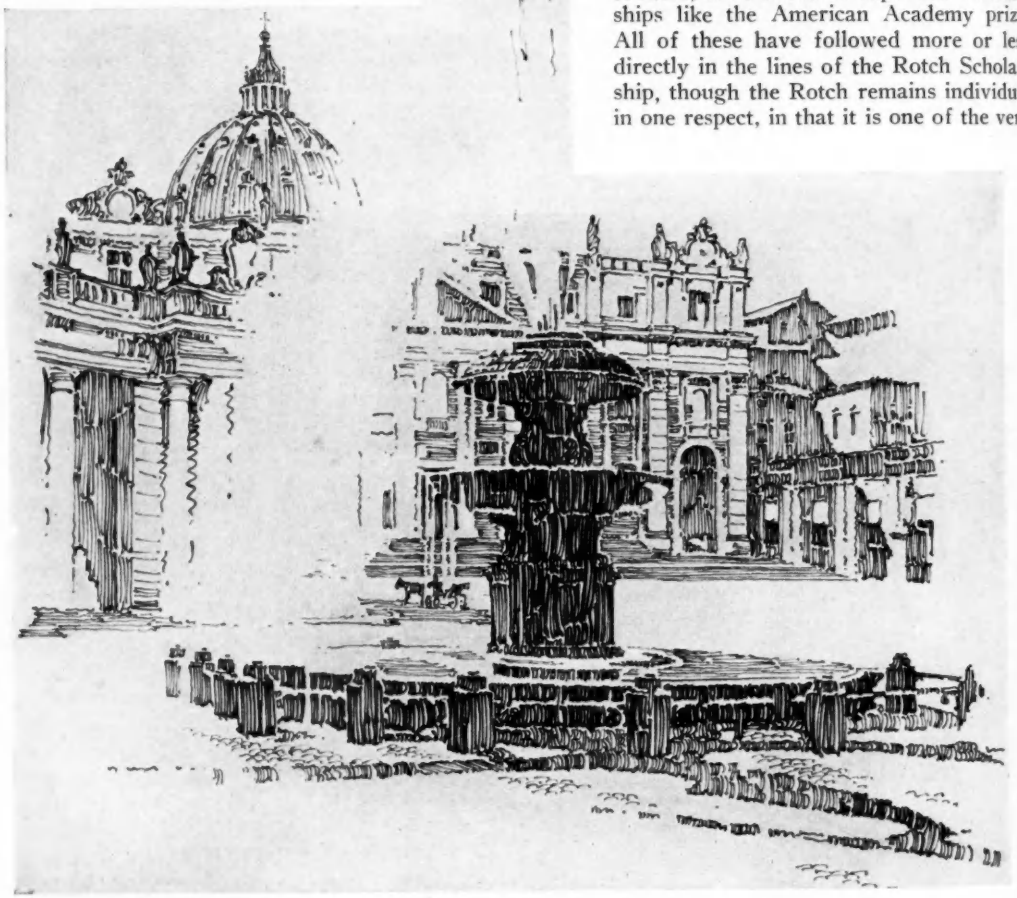




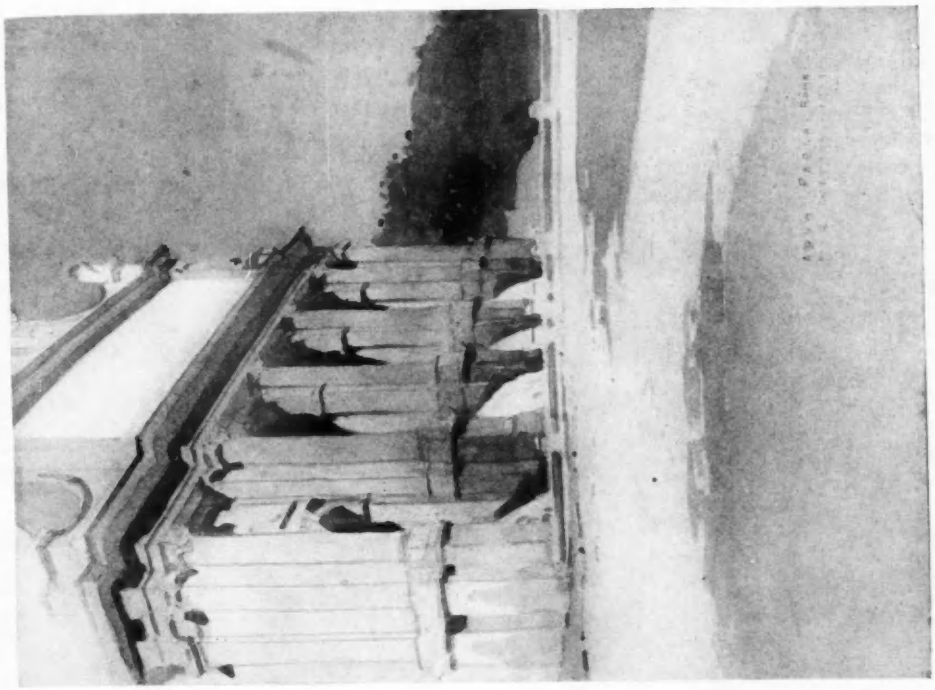
WATER COLOR SKETCHES BY FREDERICK ROY WITTON

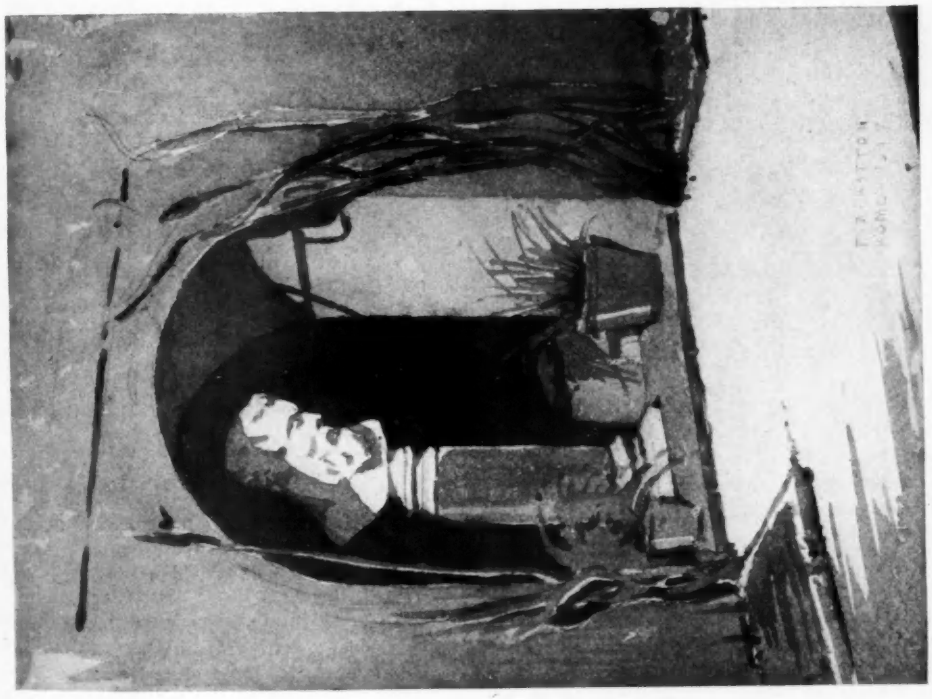
from five to a dozen men strive earnestly to win this prize, and each year those men spend time carefully revising their studies, or taking up new ones, or working on problems which will help them to be ready. The value of such preparation to the unsuccessful aspirants is no small factor in the development of the architectural sense of the community. Thirty-four men have won the scholarship. Something like 150 more have seriously tried for it, and probably 200 others have followed serious preparatory studies without entering the competition. The Boston Architectural Club has of late years constituted itself a special training department for the scholarship, and the good the club has accomplished is immeasurably greater because of the fact of this prize which offers itself to the young men. Nor is this all. The bringing together of the best minds in the architectural profession in the judgment of these problems is of value not easily estimated, but which is unquestioned. Nor is the good which accrues to the profession limited to Boston or Massachusetts. Out of twenty-nine living prize men who returned from abroad, twelve are permanently located in Boston, nine in New York, one in Chicago, two in San Francisco, one in Alabama, two in Michigan, two in Missouri, and in every case these men have taken a prominent part in the architectural development of the country and have been associated with the best impulses, so that while the scholarship is a local institution, it has sent out influences through the whole country and has proven itself of national value.

And yet further has the influence of the scholarship extended. In 1883 there were no scholarships. To-day there are a score or more. Nearly every university where architecture is successfully taught has one or more, and there are independent scholarships like the American Academy prize. All of these have followed more or less directly in the lines of the Rotch Scholarship, though the Rotch remains individual in one respect, in that it is one of the very



PEN AND INK SKETCH BY FREDERICK ROY WITTON



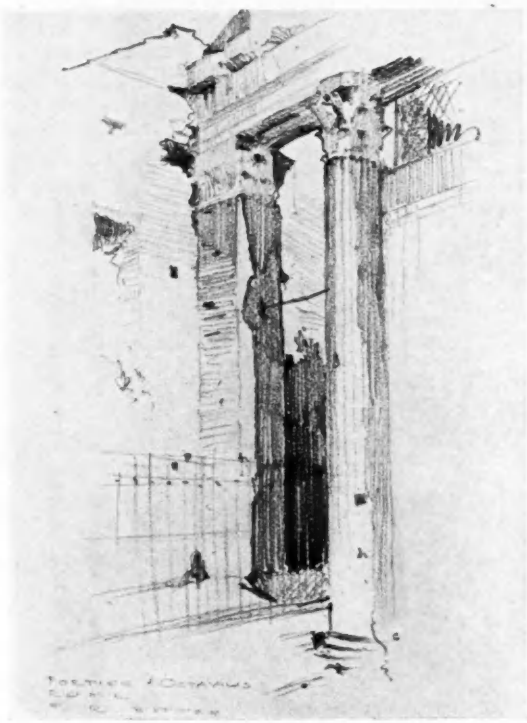


WATER COLOR SKETCHES BY FREDERICK ROY WITTON

few which do not require an academic training. Anyone who can pass the examinations can win the scholarship, and it has no affiliation with any educational institutions.

In the thirty-four years of its existence there has been but a single death, that of Mr. Louis W. Pulsifer, the sixteenth scholar, who died four years after his return, but after giving evidence of a high talent in his profession which amply justified his selection. None of the men have retired, and not one has failed to make good, but all are still in active practice.

The scholarship as originally founded was a trust, but in 1911, in order to be in conformity with the State laws, it became incorporated, the members of the corporation being Mr. and Mrs. Winthrop Sargent, Mr. and Mrs. H. A. Lamb, Charles Morgan Rotch, William Rotch and C. H. Blackall. Mr. Blackall is the only member of the Corporation who is not a relative of the original founder. The present trustees are Mr. William Rotch, Mrs. H. A. Lamb and Mr. C. H. Blackall, the latter being also permanent secretary of the committee of the Boston Society of Architects. The finances of the scholarship have from the beginning been under the immediate direction of Mr. William Rotch, and during the thirty-four years which have elapsed since the original gift, notwithstanding some financial reverses and a few losses, the funds of the scholarship have grown steadily until they now amount to $65,000. Eleven hundred dollars is paid yearly to each scholar. Besides this, all expenses of the scholarship are borne by the corporation. The profession certainly owes a debt of gratitude to Mr. Rotch for the admirable manner in which he has managed the finances.



PENCIL SKETCH

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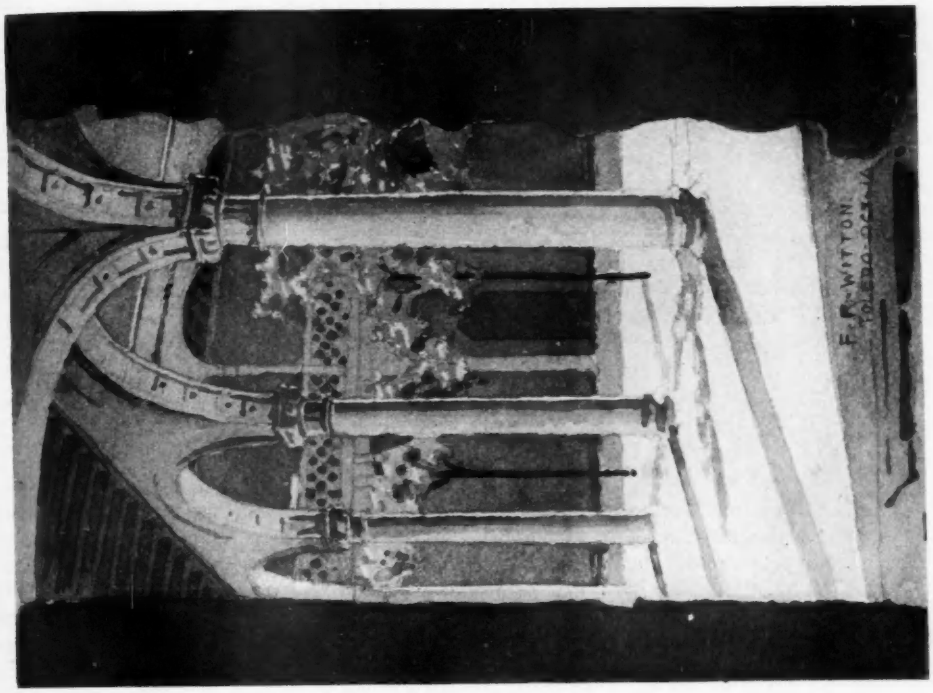
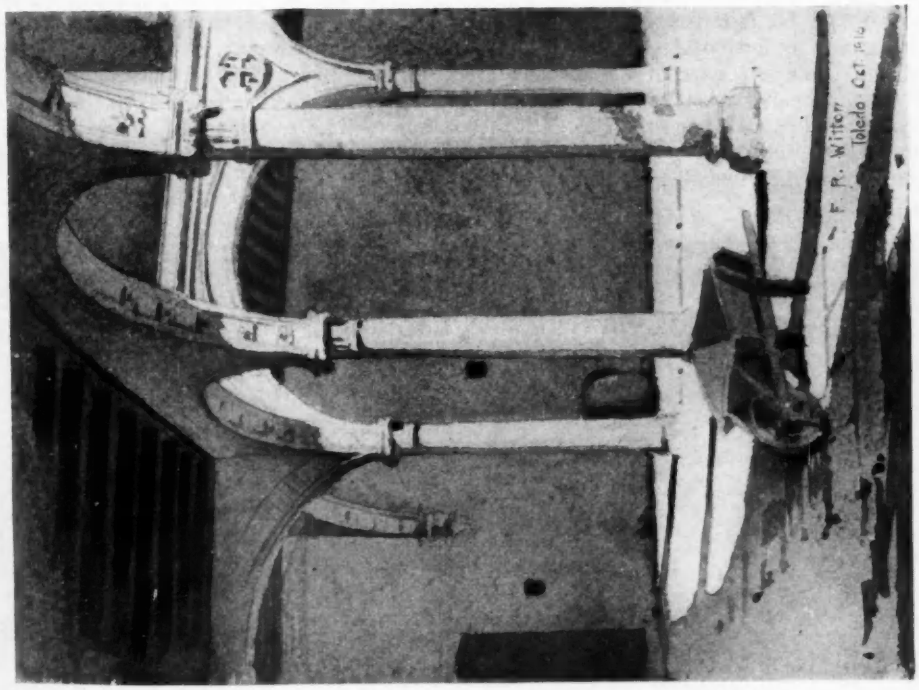
WINNERS OF THE ROTCH TRAVELING SCHOLARSHIP

1. 1884. C. H. Blackall, Boston.
2. 1885. S. W. Mead, Boston.
3. 1886. George F. Newton, Boston.
4. 1887. Edgar A. Josselyn, New York.
5. 1888. A. W. Lord, New York.
6. 1889. Harry Bacon, New York.
7. 1890. W. T. Partridge, Brooklyn.
8. 1891. R. C. Spencer, Jr., Chicago.
9. 1892. John W. Case, Detroit.
10. 1893. Walter H. Kilham, Boston.
11. 1894. H. Van Buren Magonigle, New York.
12. 1895. Will S. Aldrich, St. Joseph, Mo.





WATER COLOR SKETCHES BY FREDERICK ROY WITTON

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13. 1896. L. H. Boynton, Ann Arbor, Mich
14. 1897. H. B. Pennell, Boston.
15. 1898. Louis C. Newhall, Boston.
16. 1899. Louis W. Pulsifer, deceased 1905.
17. 1900. William L. Welton, Birmingham, Ala.
18. 1901. William L. Mowll, Boston.
19. 1902. James Ford Clapp, Boston.
20. 1903. Edward T. Foulkes, San Francisco.
21. 1904. Frederic C. Hirons, New York.
22. 1905. William DeF. Crowell, St. Louis.
23. 1906. L. P. Burnham, New York.
24. 1907. Otto Faelten, New York.
25. 1908. Israel P. Lord, Boston.
26. 1909. Horace G. Simpson, San Francisco.
27. 1910. Joseph McGinniss, Boston.
28. 1911. Niels Hjalmar Larsen, Boston.
29. 1912. Charles Cameron Clark, New York.
30. 1913. William Leo Smith, Fort Standish, Boston Harbor.
31. 1914. Ralph J. Batchelder, American Academy, Rome.
32. 1915. Frederick R. Witton, now in France.
33. 1916. Ralph T. Walker, to go abroad after the war.
34. 1917. James N. Holden, to go abroad after the war.

Frederick Roy Witton

MR. WITTON, whose sketches and drawings are shown in this issue of THE AMERICAN ARCHITECT, is the thirty-second winner of the Rotch Traveling Scholarship. He was born in Boston, March 20, 1892, and was educated in the Boston Public Schools, graduating from the English High School in 1910. He began his architectural studies in the office of Newhall & Blevins in 1910, and was with James Murray in 1911 and with C. H. Blackall from 1911-1915. He followed the night courses in architecture at the Boston Architectural Club in 1910-12, and was the winner of the Architectural League of American Scholarships at Harvard in 1912, 1913 and 1914. He won the Boston Society of Architects special prize in 1913 and received second mention in the Intercollegiate Competition of 1913. He was given his certificate in architecture from Harvard in 1914 and won the scholarship in 1915. Owing to the war conditions he did not go to Europe until September, 1916. He spent the greater part of his first year in the American Academy at Rome, with a hasty trip through Spain and southern France and a short visit to Sicily. At the end of his first year a feeling of dissatisfaction at not being in the war led him to request leave of absence from the scholarship, and he is now a lieutenant in the U. S. Aviation Corps somewhere in France. The remaining year of his scholarship has been held open for him, but he has enlisted for the duration of the war with an enthusiasm and a willingness to serve which shows very manifestly in the letters which he has sent back.

PENCIL SKETCH, FREDERICK ROY WITTON

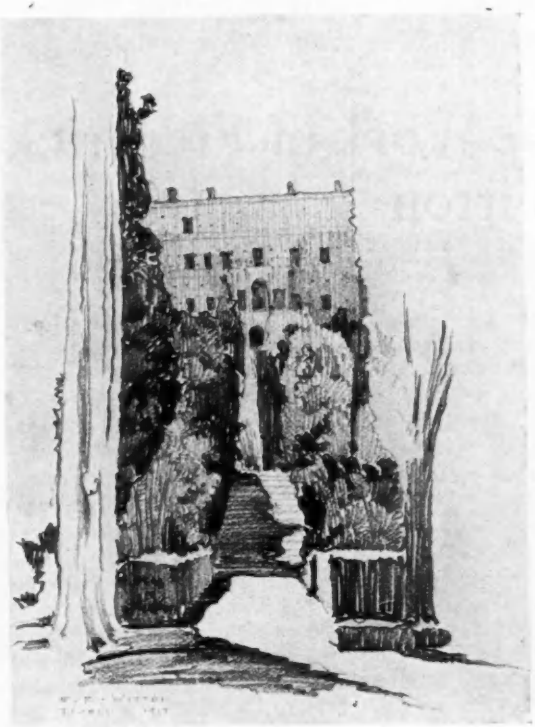
An Appreciation of the Work of Frederick Roy Witton

A Communication from Wm. Welles Bosworth to the Editors of The American Architect

REPLYING to your request for comments from me in regard to the reproductions of the work of Mr. Frederick Roy Witton, which you are soon to publish, it is with great pleasure that I avail myself of the opportunity of publicly commending such an artist.

A mere glance at the sketches wins one to their charm and sense of beauty. It is exceedingly rare to find among architects such a feeling for simplicity; probably largely because their minds are filled with detail almost from the beginning of their studies. In these sketches the first thing that strikes one is the peculiar gift Mr. Witton possesses for brush work. What could be more luminous and soft, and at the same time purely architectural, than this sketch of the Acqua Paola in Rome! Or what more gleamingly brilliant than the court yard fountain at Granada! The shadow, cast by the cypress tree in the corner, fascinates the eye.

The subjects chosen for these sketches reveal a quality of judgment in selection as well as capability in handling them, which do full credit to the institutions and influences responsible for his training. This is equally true of the more serious measured drawings, though one speaks of them after the sketches, perhaps because they are less indicative of the qualities of the author, being more abstract and conventional. They are, however, none the less ably presented or tastefully selected. They fill one with renewed enthusiasm for the noble and gracious art of architecture. How clearly they also demonstrate the inexhaustible inspiration to be de-



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PENCIL AND PEN AND INK SKETCHES
BY FREDERICK ROY WITTON
WINNER OF 1915 AWARD ROTCH TRAVELING SCHOLARSHIP

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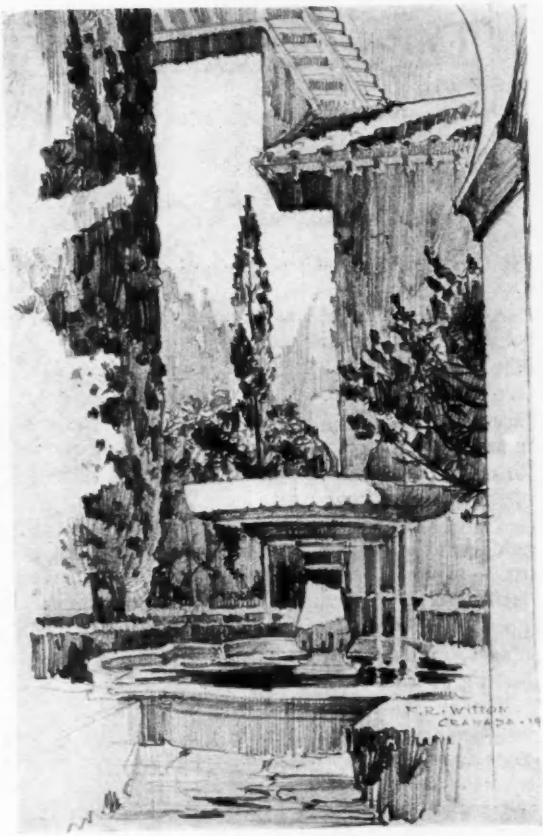
PENCIL SKETCH, FREDERICK ROY WITTON



PENCIL SKETCH, FREDERICK ROY WITTON

rived from the finishing of the young architect's education in Italy!

Playwrights seem to agree that "The Plot's the Thing." Architects have not always agreed with the Frenchman's canon that "The Plan's the Thing" in architecture, and that architecture should be practiced first as a science and secondly, if happily possible, as an art. Joseph Pennell quoted the other day Whistler's remark about the French as teachers. "The contention that art is all a matter of taste may be true enough, but one must study with the French to learn which end of the brush to put in the mouth." This material emphasizes so much more potently the spirit of beauty, than it does the science of planning insisted on by the French, that it reminds one of the favorite remark of a member of the firm of McKim, Mead & White that "Logic never yet produced beauty." One feels no misgivings about what the future of American Architecture will be, if left in the hands of such men as Mr. Witton.

Were one to make a critical comment it would be of the pen and pencil sketches. Should one ever forget that the purpose of a line drawing, where shadows are attempted, is to confuse the eye by the juxtaposition of the lines into a feeling of tone?

One notes with pride, and at the same time anxiety, that Mr. Witton has forsaken his studies to join the Aviation Corps in France. May the Muses watch over him and carry him safely through.

If beauty is the crown of architecture, Mr. Witton's sense of beauty will bring to it fresh laurels.

WM. WELLES BOSWORTH.

New York.

XUM

Digest of Commercial and Financial News

Affecting the Practice of Architecture

The Crucial Test of Our Finances

Extracts from an article by A. J. Hemphill, Chairman, Board of Directors Guaranty Trust Co., New York

A GREAT deal has been said and written recently about the financial world-leadership of the United States. But in considering the subject we have been more disposed to think of our great accumulation of gold, our unequalled trade balance, and our colossal government financing than to contemplate the responsibilities which such leadership imposes upon us.

Now, however, when we are facing the biggest and most important financial problem in our history—that of providing ample funds for the government, and at the same time supplying the monetary needs of essential private business—we are beginning to understand that world leadership means the blazing of a new trail.

The situation is unique in our annals; we have no precedents of our own to guide us. It is true that England and France have lighted part of the way for us, but neither of those countries will, or can, equal our financial efforts. So it becomes necessary for us to set up many new milestones along the road to victory.

* * *

In 1914, it was estimated, corporate and municipal borrowings aggregated approximately $2,400,000,000; in 1915, $2,600,000,000, and in 1916, $2,900,000,000. The total for 1917 was also very large, and that for the present year will be commensurate with war-created circumstances.

* * *

There are several very good reasons why it is not to be expected that corporations will find it possible to finance their corporate needs during the period of the war in the same manner that they have under normal conditions.

It is a foregone conclusion, of course, that those corporations engaged in the manufacture of articles necessary to the government in the prosecution of the war will be provided with some means of obtaining the working capital which they will undoubtedly require from time to time. They will be forced to expand their plants and operations to meet the requirements of the government and they will also be called upon to speed up production. On the other hand, the government will fix the profits which they are to be allowed to make on such contracts and will also deduct from any surplus earnings through the operation of recently enacted war taxes.

The combined effect of these conditions will make capital timid, and it is not to be expected that investment bankers will be particularly enthusiastic about underwriting issues of bonds, notes, or preferred stocks with this situation apparent, even if it were otherwise advisable to do so from the standpoint of the government.

* * *

If this war is testing the financial strength and resources of America, it is also testing the moral and intellectual capacities of American financiers. World leadership in finance will be won quite as much by the scrupulous observance of ethics as by the amassing of a great surplus of gold coin and bullion and by the accumulation of a huge credit balance. It will necessitate foresight and vision on a plane with constructive statesmanship. It will find its greatest field of usefulness and profit in promoting the welfare and happiness of the peoples of the world, for we have learned that our "splendid isolation" is a myth, and that whatever disturbs the economic and monetary conditions of other nations inevitably disturbs our own. So, world leadership in finance, rightly understood and properly used, will be one of the greatest factors, through helping to create universal prosperity and contentment, in making the world safe for democracy.

* * *

The tremendous increase in our production, and especially in the value of our products, has necessitated an increase of money in circulation from $3,363,738,000 on July 1, 1913, to approximately $4,850,360,000 on July 1, 1917.

* * *

But we must guard against inflation of values and credits, which has little in common with sound expansion. We must avoid fiat money, and profit by Germany's fiscal errors, which have plunged that nation into bankruptcy.

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Our Wasted Water Power

ACCORDING to an engineering authority the people of the United States allow the equivalent of one million tons of coal per day in power to run to the sea in unharnessed rivers. It is estimated that we have at our hands fifty million potential horsepower in waterways that we might turn to use, and of this but about one-eighth has been made available to the tasks of industry.

In view of the present railway congestion, abnormal consumption of coal and other conditions which Congress is now investigating, we could make good use of this enormous water power. A single concrete example is cited by an engineering journal of a hydro-electric plant in Utah. This plant, it is stated, develops current that it would take at least one million tons of coal per year to produce, coal that it would require 25,000 cars to transport. This instance could be multiplied by many similar ones all over the country.

All these facts as to the failure to utilize easily available water power are, in view of present conditions, brought home to us in a way that emphasizes the importance of proper governmental action. So great are our resources in the United States that we have become in a sense blinded to their value, and with this the general belief has grown that they are inexhaustible. It has taken a combination of abnormal conditions and a certain lack of efficiency to bring us to a realization of just where this prodigality will lead us. The diminishing of our coal supply, or at least the inability to avail ourselves of it, accents the necessity for a more thorough development of the enormous energy stored in our many fast-flowing rivers. Had we been more alive to the true meaning of preparedness, had we taken an exact stock of all our many undeveloped resources, and provided a way to make them available, the unsettled conditions now prevalent throughout this country could largely have been averted.

In the case of coal alone, the development of our water power would not only have reduced the transportation of coal by many millions of tons, and decreased its consumption by an equal number of tons, but it would also have made coal cheaper and relieved the people of one of the many heavy burdens under which they are now struggling.

It would also have conserved the amount of coal unmined. It takes no experience as an expert in economics to realize the immense saving that a systematic, properly controlled development of water power would have effected. Probably a deterrent factor in the movement to conserve our water power has been the objection raised by many who saw in the harnessing of our rivers a great damage to the esthetic appearance of their localities. Further, there has always been a feeling that the material returns for this defacement would go to enrich certain corporations whose efforts at water-power control have been regarded with more or less suspicion.

The solution of this problem logically lies in government control. It has certainly been shown conclusively during the past few months that the wastage of water power has amounted to almost criminal negligence, and that it is a national duty to set about evolving a plan that will accomplish results with as little delay as possible.

Looking beyond our present emergencies, it is certain that the period of reconstruction, after the war has ceased, will cover many years. The production of materials necessary in the building up of what war has destroyed will be enormous. Coal will be one of the chief factors in this production. And in seeking a solution of the fuel problem, the substitution of water power will for many reasons at once commend itself.

The mines, although the product of many ages, have been regarded as practically inexhaustible, yet we now know, and with surety, that at the present rate of consumption the mining of coal in paying quantities will eventually be impossible. Water will never fail, and for this reason any expense attached to original engineering cost will be of permanent

value. The only capital outlay will be the first cost of the development.

There is, it has been stated, a movement to investigate thoroughly the resources of the entire country as to its available water supply. Congress, it is further announced, will provide the funds for this investigation, and will secure the services of a group of men whose wide experience in hydro-electric engineering will make their work valuable.

These matters always move slowly and are sometimes permitted to lapse through lack of proper support. Now is the proper time to emphasize the need for speedy action. The great regret in view of our large and unnecessary economic loss is that it has taken the spur of an acute and largely avoidable condition to impress the importance of a work that should have received attention years ago.

Daylight Saving

IF Congress requires a practical demonstration of the many beneficial results that would follow the passing of the daylight saving bill, for which Senator Calder is sponsor, they have but to make inquiry into the working of a similar measure now in operation in Europe.

There the plan of setting the clock ahead has been tried out with admirable success. Not only has it saved fuel, but it has also been found to have had a beneficial effect on public health.

In Europe the plan was adopted purely as a war measure, but if the references in the foreign press can be taken as representative of general opinion, daylight saving is likely to be permanently continued.

The history of the proposed legislation for daylight saving is similar in its aspect to much of our present war preparation. There is a lively interest only when conditions that could have been, and were in many cases, predicted, become so acute as to demand immediate action.

Only second in importance to the development of our water power for conserving our fuel supply is the project of daylight saving. Fuel consumption can be measurably retarded by thus lessening the use of artificial light. Based on the experience of Europe, it is estimated that $40,000,000 a year will be gained by setting the clock ahead.

It was last June that Senator Calder introduced his bill in the Senate. It was passed by the Senate at the last session of Congress, but was opposed in the House, where it now rests in committee.

The New York *Times,* commenting on the failure to bring this important measure before the House, stated in a recent editorial:

> "William C. Adamson of Georgia, who was until recently chairman of the Interstate and Foreign Commerce Committee, came from a farming community and was wedded to the idea that if the great urban and industrial centers wanted to conform their working daylight hours in summer to the farmer's schedule, all they had to do was to decide to get up an hour earlier and go to bed an hour earlier. He made no allowance for the tremendous inertia of habit and the impossibility of inducing millions of people to agree among themselves to do what could be done for them, without any appreciable friction, by an act of Congress simply setting the hands of the clock forward one hour some April Sunday morning."

Mr. Adamson was unable, evidently, to regard the bill with any degree of seriousness. It was therefore pigeon-holed, and only very serious conditions as to coal supply and transportation have served as a lever to pry it out. It would seem in this case that congressional courtesy was of more importance than the pressing needs of the country, and that no member of the House would feel it a duty to move the discharge of the consideration of this bill by the committee and the discussion of the measure as long as the chairman withheld his approval.

Fortunately for the further progress of the daylight saving bill, Mr. Adamson resigned, having been appointed a member of the Board of Appraisers of the Port of New York. His successor as chairman is the Hon. Thetus W. Sims. Mr. Sims is as favorably disposed toward this measure as his predecessor was antagonistic. We may now hope that the bill will be sent on its way to final passage and approval by the President.

No one will question the imperative need for the passing of this bill. Let us hope that Congress will awaken to the fact that we are at war and that there are certain measures of even greater importance than those that in some instances engage their attention just now. Nothing but legislative inertia has robbed us of the many advantages that would follow the passing of the daylight saving bill.

Criticism and Comment

A National Organization

The Editors, THE AMERICAN ARCHITECT:

In reply to your editorial in THE AMERICAN ARCHITECT for December 12th, let me say that I concur in your statement that important subjects often fail to receive consideration at the annual conventions of the American Institute of Architects, and that routine matters consume too much of the limited time of the conventions. I am sure this is fully realized by the officials, and although difficult to prevent entirely, there has been an earnest effort for several years to reduce the more uninteresting parts of the program. After all, the great value of the conventions of the Institute is the gathering together of representative men from all parts of the country for professional and social intercourse. I also agree that wise legislation providing for the admission of architects to practice and limiting the use of the title to those competent is desirable.

With the rest of the editorial, I regret to say, I find myself in complete disagreement, perhaps for the reason that it is based largely upon assumptions which are contrary to the facts as I see them. In the first place I am fully convinced that the Institute is a representative organization and that the "lukewarmness of the profession toward the Institute," which you do not consider it necessary to explain, does not exist in any general sense. Perhaps we differ in our conception of what really does and should constitute the profession of architecture. To my mind it is confined to those who by equipment and training are qualified to practice the art as a profession, and while there are some that are not in the Institute who could fulfill these requirements, the number is comparatively small. In fact the non-membership of an architect of fair or first-rate ability is so unusual as to be the subject of comment and speculation. The various lists of architects published by one authority or another contain a large number of employed draughtsmen, men who make drawings and also take contracts for work, as well as many who practice architecture without ability, training or organization, and I am quite sure that if proper legislation for admission to practice were general the Institute would contain a majority of the architects throughout the country who are really qualified to bear the title. If you will figure to yourself an organization formed of all the non-Institute men listed as architects in the United States I believe you will realize at once that although such a body might possibly have a majority in numbers it could in no sense be considered representative of the profession.

It is difficult for me to understand wherein the inability of a professional organization to punish its recalcitrant members except by censure indicates a lack of dignity. Dignity is derived from sources other than the power to punish. Nor has it been my experience that the formal censure of the Institute carries little if any weight or punishment. My service on the Judiciary Committee has shown me that the contrary is true.

I believe, as you apparently do, that the various County, State and National Bar Associations are representative of the legal profession, for they contain in a great measure, as does the Institute, those members of their profession who are endeavoring to uplift it and have sought to accomplish this by means of organization. Although without access to figures, I am under the impression that the majority of lawyers in this country are not members of the Bar Association, in which case their organizations are no more numerically representative than is the Institute. Moreover, the Bar Associations have no right whatever to interfere with the practice of attorneys, whether the latter be members or not, although they have about the same power to discipline their members that the Institute possesses. Attorneys are sworn officers of the court, and while a Bar Association may prefer charges against an attorney, it is the court that suspends him from practice. Even the court can do so only by due process of law. I doubt very much whether such an arrangement as you suggest to regulate the conduct of architects could ever be made, and I question if it would be a constitutional method were the necessary legislation enacted.

No doubt the Institute, like all other organizations, falls somewhat short of the ideal, but for many years it has gone steadily forward, and it seems to me that its future is safer on the broad road of progress than it would be in the fields and by-ways, searching for some other unknown path.

Very truly yours,

JOHN HALL RANKIN.

Philadelphia, Pa.

The Editors THE AMERICAN ARCHITECT:

I trust that your editorial in the issue of Dec. 12th on "A National Organization" may provoke discussion. To members of the Institute and others outside of certain large centers some facts to which you call attention have long been apparent. For

example, it is idle to hope that the society as constituted and working can ever become the force for clean professional practice that State Bar Associations are. No organization that controls as members but a minority of the best practitioners, and indeed throughout considerable sections of the country practically none at all, can accomplish this.

In the spread of the gospel of improved architectural design our decade has been fortunate, but this is plainly due to the influence of individual architects and offices, to the training of standard schools of architecture, to the ateliers of the Beaux Arts Society, and to other outside forces more than to broadly conceived and planned efforts of a strong national organization.

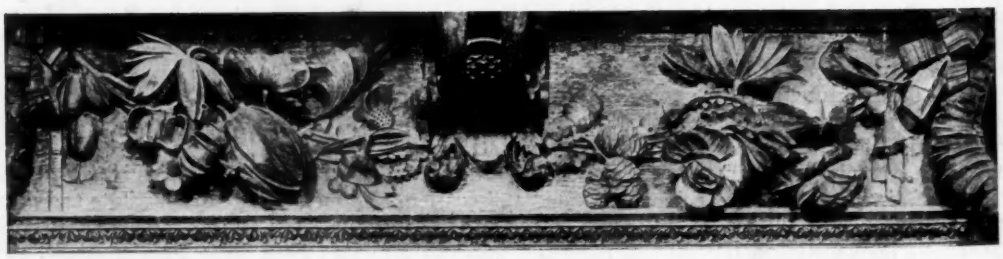
Criticism to be justified must be constructive. Suppose that, building from the bottom up as in all good construction, the energies of the Institute were devoted to the formation in each of the forty-eight states without exception, of strong architects' associations. In order that these state groups should take in practically all the available men, entrance requirements must be made as broad as possible, consistent with correct professional standards. All college men are in accord with the present tendency to pick as leaders college graduates, but no man of acceptable record and ability should be barred from membership in a state association because of lack of a college degree or asked to submit to a school examination. Where state license laws exist, the possession of a certificate to practice should admit without question, except as to character, and legislation should be obtained to place the Architects' Association on the basis and give it the power to maintain standards now exercised by State Bar Associations. In states where suitable license laws do not now prevail, all efforts must concentrate on securing them.

As the recognized head of all State Associations, the American Institute of Architects would assuredly not lose in prestige or power for good, and with largely increased membership the present often prohibitive annual due might as a first step be cut in half. Architects have never been placed in the class of "malefactors of great wealth,"—those not born rich at least, for reasons painfully evident to the majority, and I suspect that many now outside of the Institute and fully qualified even by present laws to enter, refrain because of the cost. What with the annual dues, subscription to Journal, Chapter fees and for many the added expense of attending Chapter meetings, the total amounts to an undesirably large sum. In these times of doubled family expense and the same or a decreased income, membership in the Institute may come to be classed among the luxuries and dropped. Perhaps before the close of the year the treasurer will have figures to illustrate this.

Under rules in force graduates in architecture from some ten of the larger Universities and two Institutes of Technology, forming the "Association of Collegiate Schools of Architecture," are admitted to Institute membership without examination. The "Standard Minima," or schedule of studies and methods advocated by this Association, is followed by the Department of Architecture of the Alabama Polytechnic Institute and other high-grade technical colleges throughout the country. Yet so far as I can discover comparatively few of the annually large number of graduates from these schools enter the American Institute of Architects. This is not due to a lack of proper presentation to undergraduates of the advantages of such membership, but rather to the inevitable loss of enthusiasm in the long period that must in most cases elapse between graduation and the thirty years' age limit fixed as a standard or the attainment of independent practice. So regrettable a loss of splendid material might be effectually prevented by admitting into the Institute as Junior Chapters, connected with and controlled by the State Associations, the existing student "Architectural Associations" of these colleges. Similar plans have been followed for years by the American Society of Mechanical Engineers and the American Institute of Electrical Engineers, with excellent results. Dues for such student members should be fixed at a nominal figure.

Very sincerely yours,

FREDERIC BIGGIN,
Department of Architecture, Alabama Polytechnic Institute.



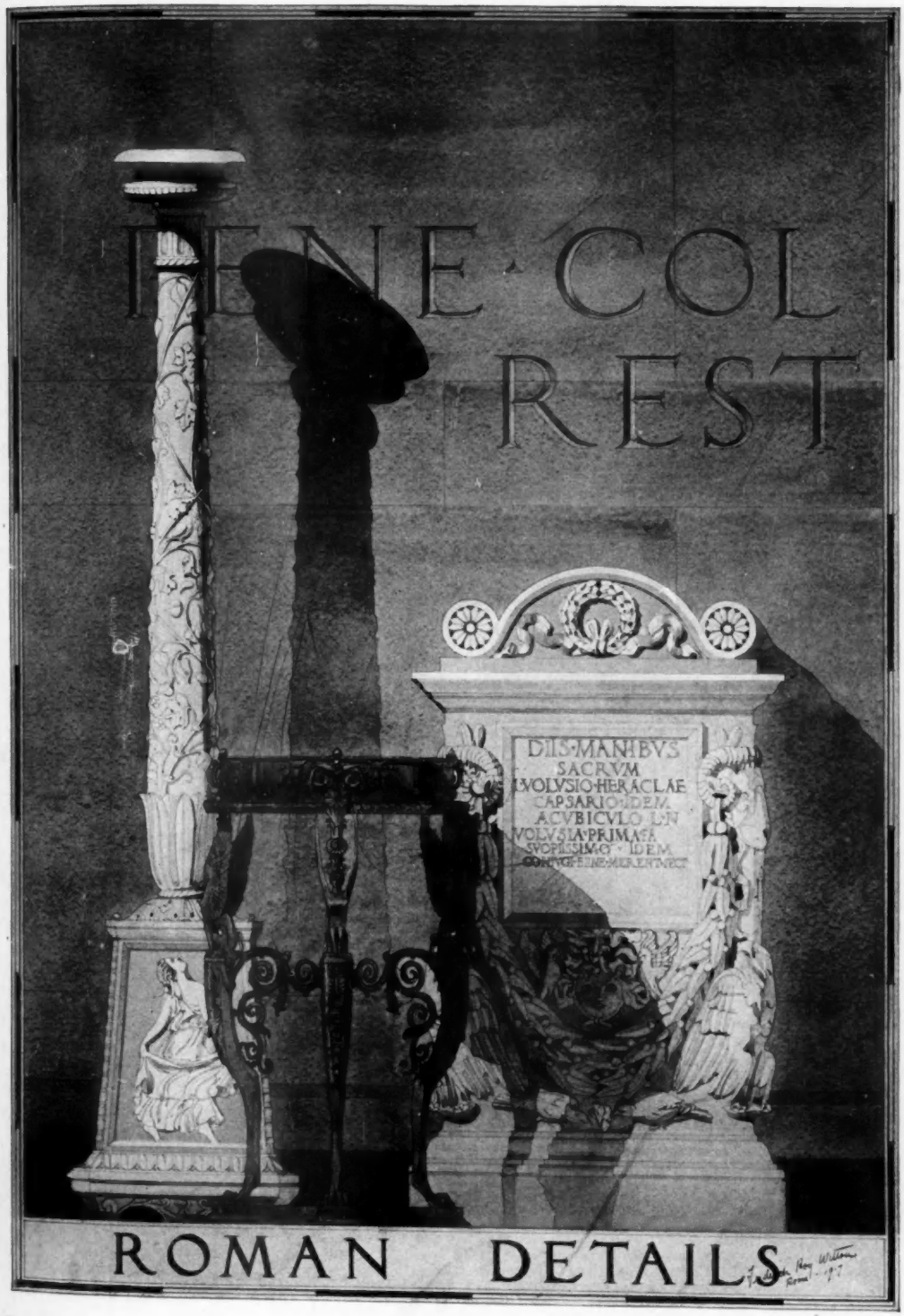


PLATE 49

DRAWING BY FREDERICK ROY WITTON

ROTCH TRAVELING SCHOLARSHIP, 1915

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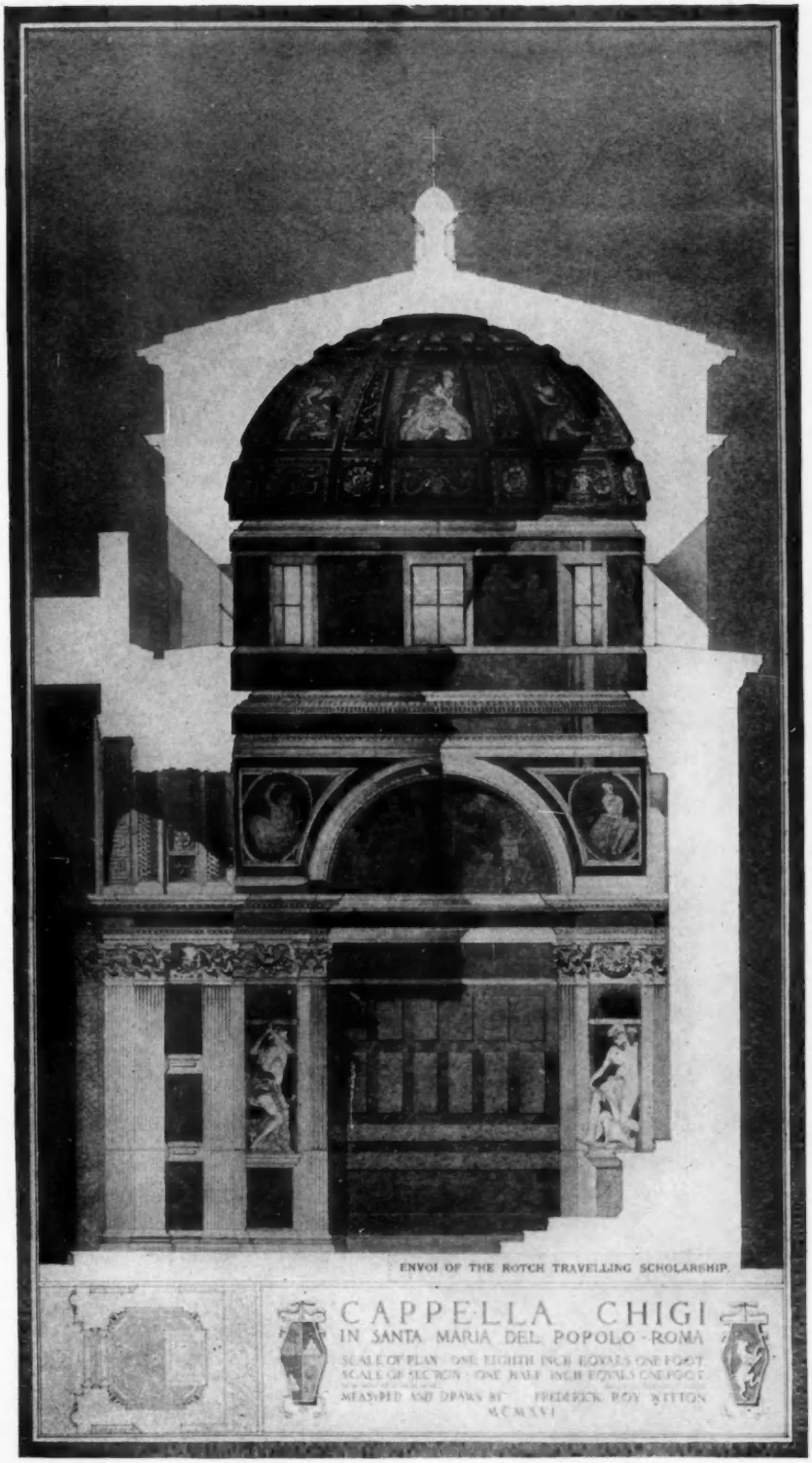
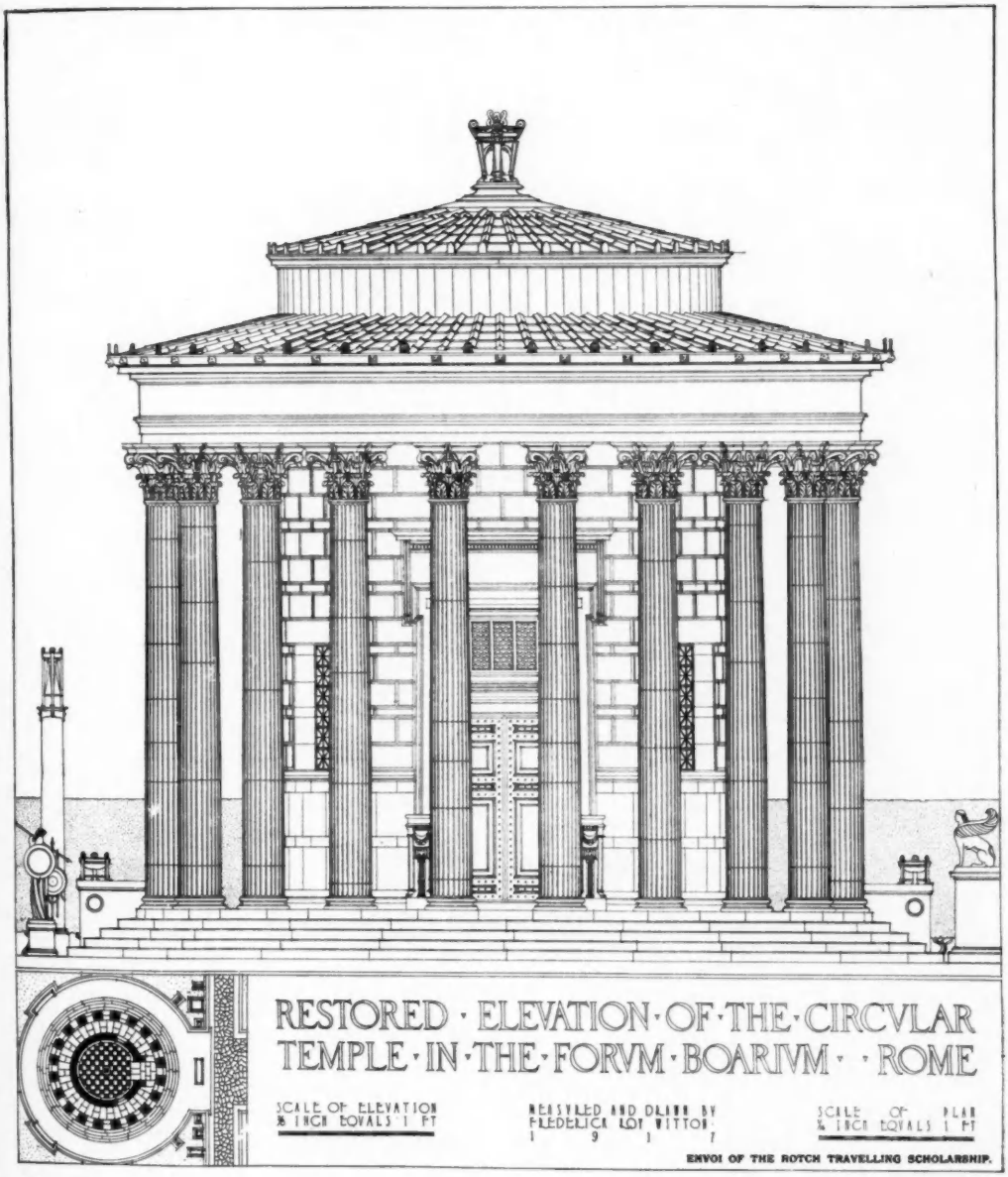


PLATE 50

DRAWING BY FREDERICK ROY WITTON

ROTCH TRAVELING SCHOLARSHIP, 1915

XUM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FREDERICK ROY WITTON
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PLATE 51

DRAWING BY FREDERICK ROY WITTON

ROTCH TRAVELING SCHOLARSHIP, 1915

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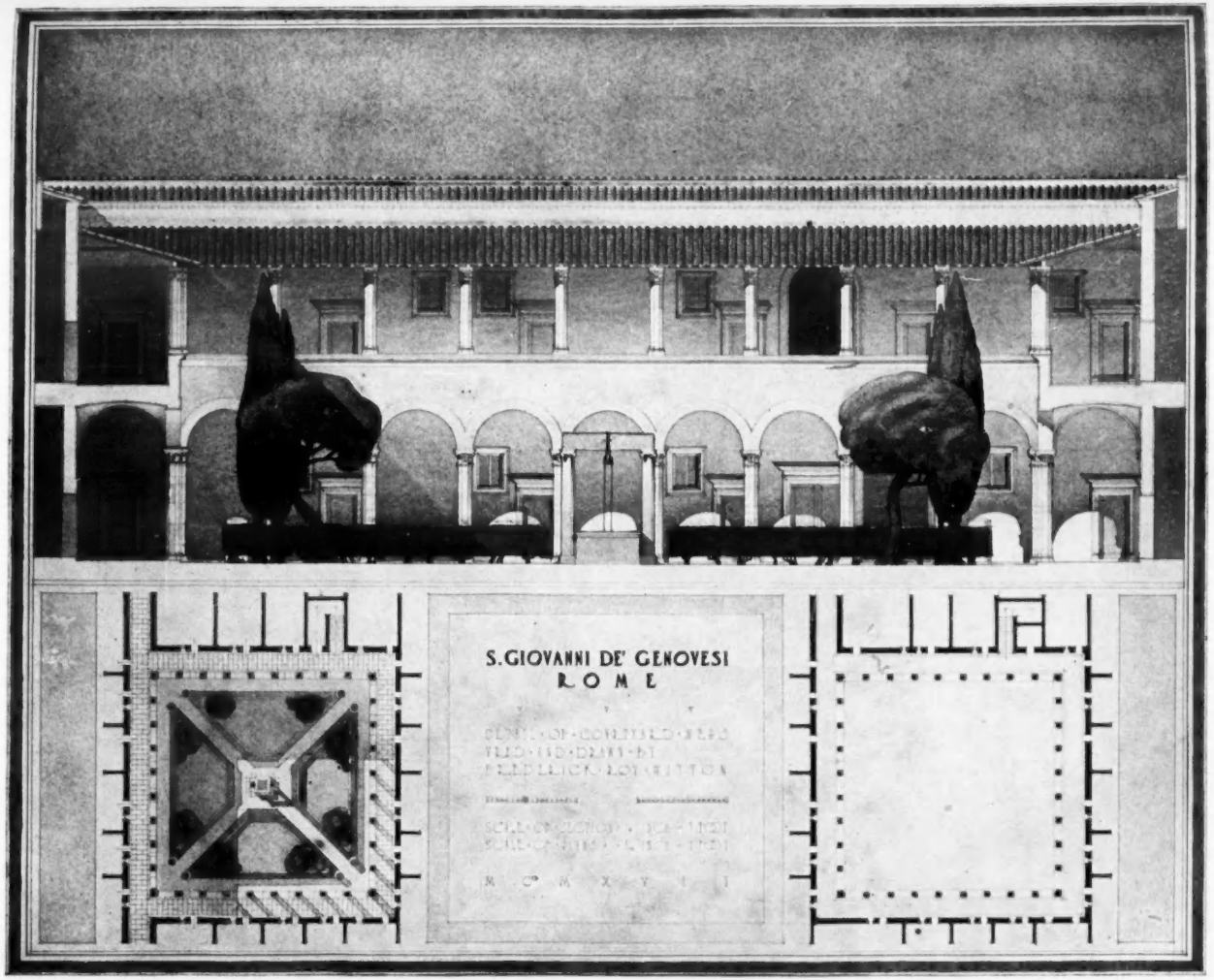
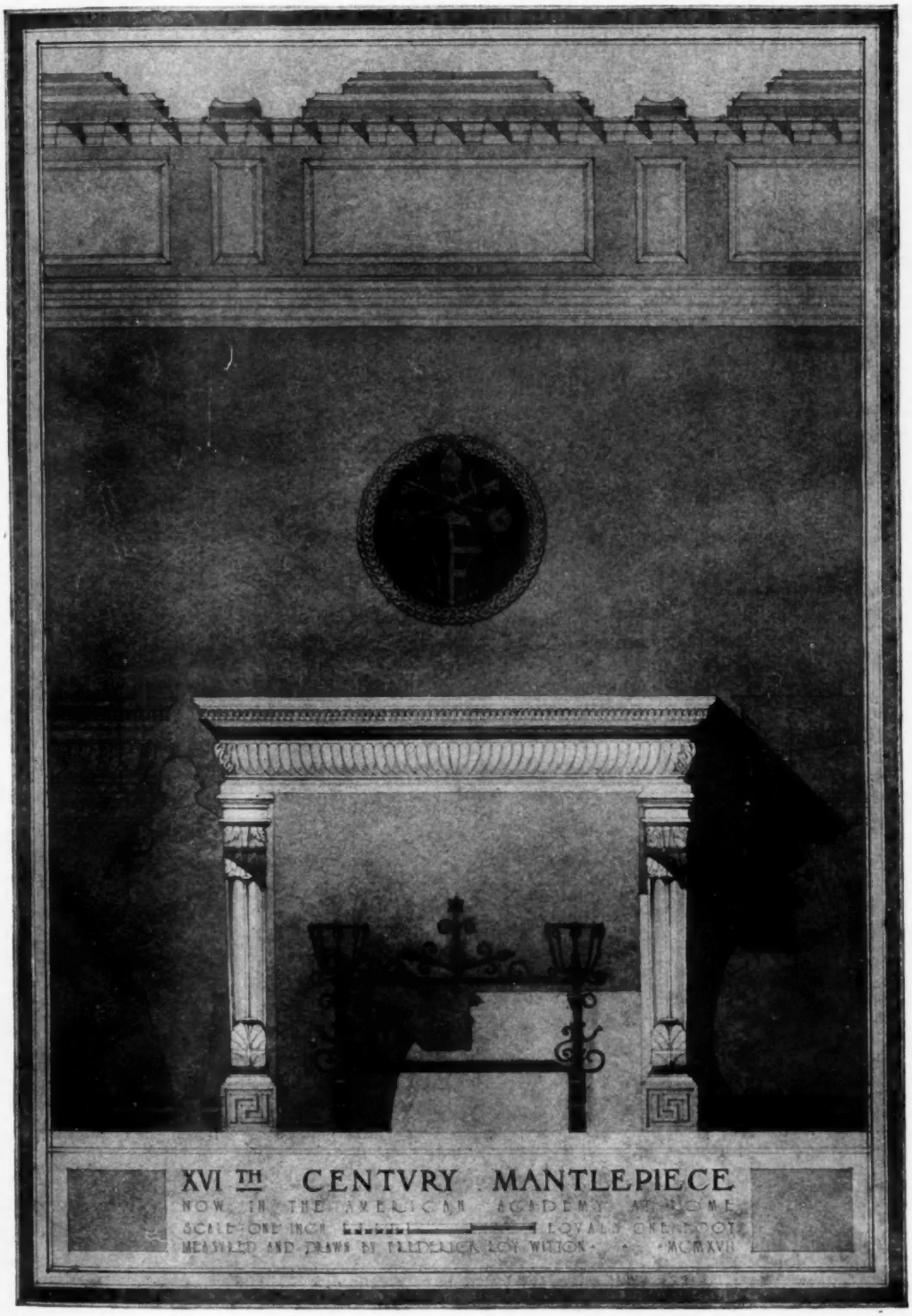


PLATE 52

DRAWING BY FREDERICK ROY WITTON

ROTCH TRAVELING SCHOLARSHIP, 1915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EQVALS ONE FOOT
MEASVRED AND DRAWN BY FREDERICK ROY WITTON
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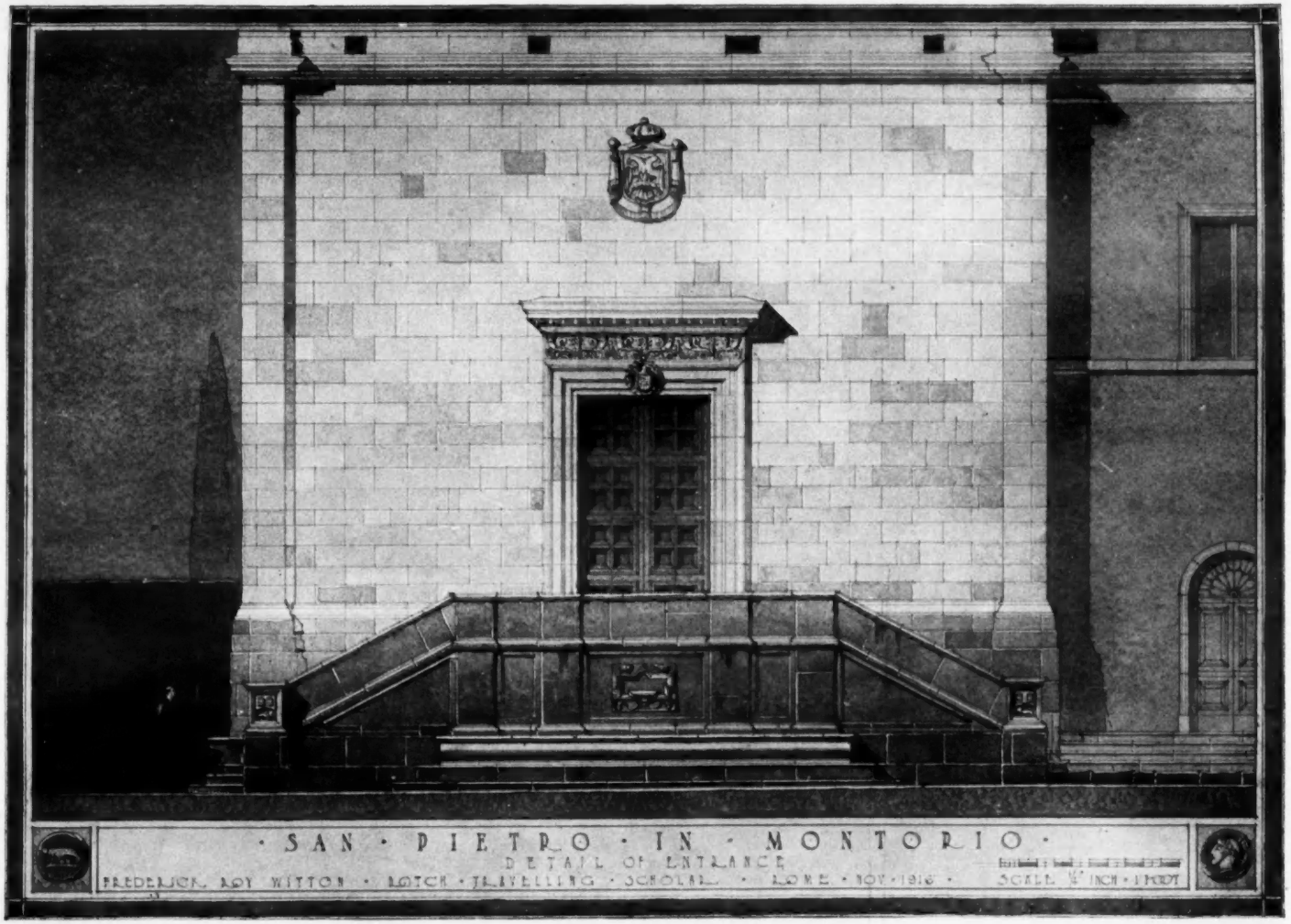
PLATE 53

DRAWING BY FREDERICK ROY WITTON

ROTCH TRAVELING SCHOLARSHIP, 1915

XUM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DETAIL OF ENTRANCE
FREDERICK ROY WITTON · ROTCH · TRAVELLING · SCHOLAR · ROME · NOV · 1915 ·
SCALE ½ INCH = 1 FOOT

PLATE 54

DRAWING BY FREDERICK ROY WITTON

ROTCH TRAVELING SCHOLARSHIP, 1915

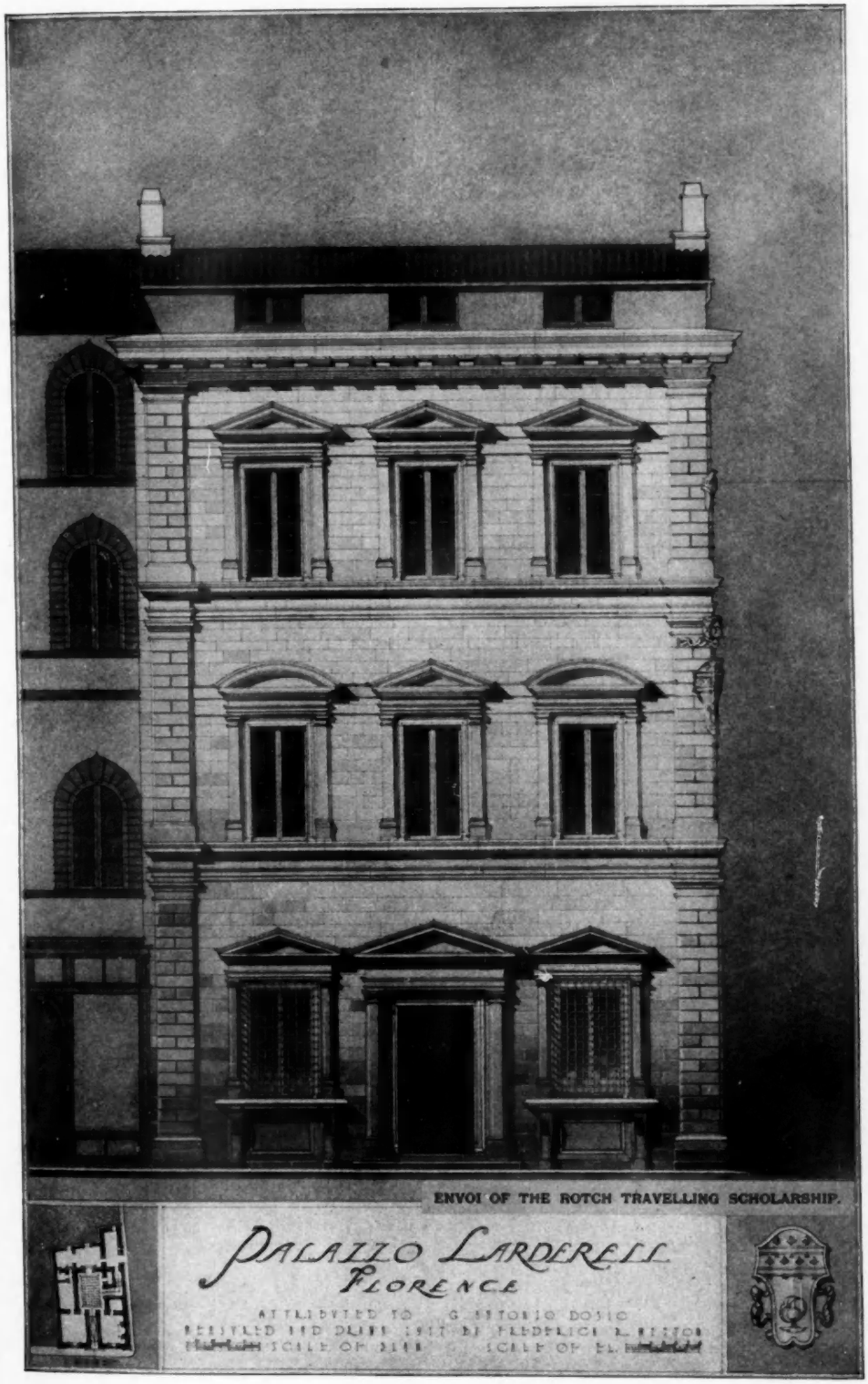
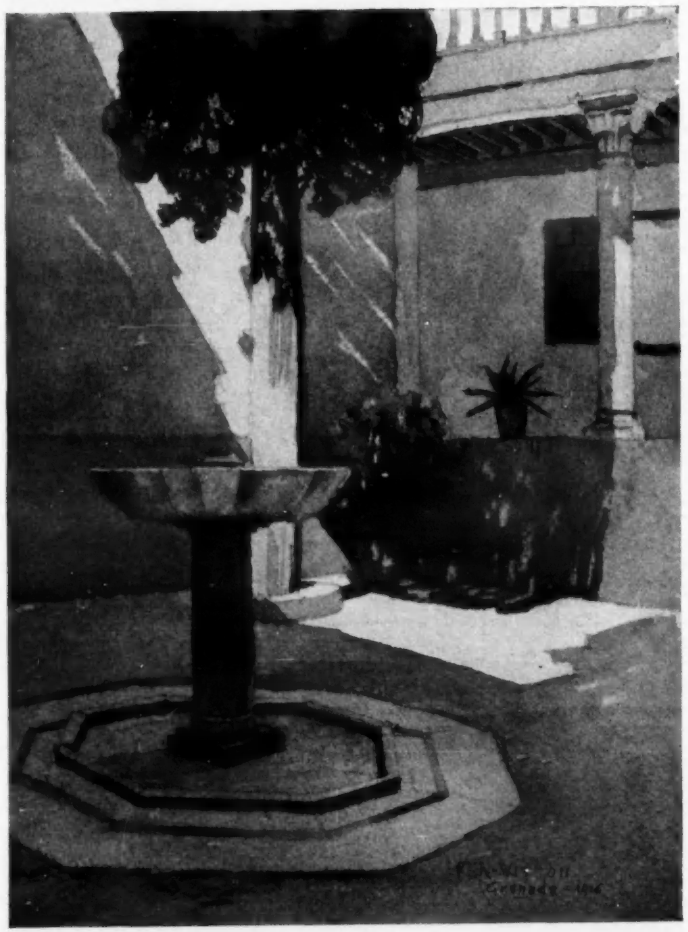


PLATE 55

DRAWING BY FREDERICK ROY WITTON
ROTCH TRAVELING SCHOLARSHIP, 1915

XUM



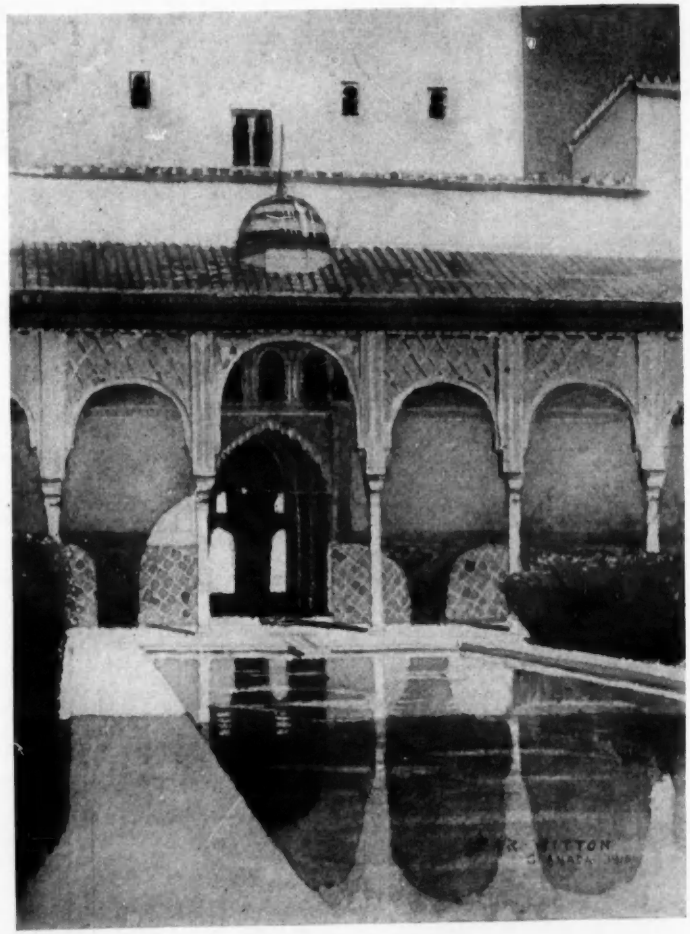


PLATE 56

DRAWINGS BY FREDERICK ROY WITTON

ROTCH TRAVELING SCHOLARSHIP, 1915

Hiding Ugly Things

To conceal unsightly objects of use is one way of forgetting their offensiveness, but to make them attractive to begin with enhances their utility. Wooden back-yard fences, for instance, dilapidated as they almost always seem, are everywhere unsightly, and Mr. George Gibbs, special investigator for the Boston City Planning Board, urges that they be abolished and that metal fences of an ornamental type be substituted. For the better dwellings, brick or concrete walls are favored by him for separating back-yards.

It has been suggested that fruit vines and shrubs be trained along such walls and fences. These disguise the bareness of the fence, and at small cost offer an artistic and a useful decoration.

The posts for clothes lines are at present a conspicuously unattractive feature of the average back-yard. There is as a rule no particularly good reason why these could not be painted a soft color of green to harmonize with the grass, or some other shade to merge into the dominant object present. At least if they are not transformed into things of beauty, they will not absorb more attention than they are worth.

A. I. A. to Convene in April in Philadelphia

At a meeting of the Board of Directors of the American Institute of Architects, held in Washington, D. C., it was decided to hold the next convention of the Institute in Philadelphia, on April 24, 25 and 26.

The congested conditions in Washington due to war preparations made it impossible to secure quarters for a convention room and headquarters in that city.

An invitation had been extended by the Illinois Chapter to hold the convention in Chicago, as it was believed a selection of a point in the Middle West would insure a larger representatation.

It is reported that the mutual consent of chapters will be asked to a material reduction of the number of representatives from each chapter.

A New Danger Sign

The Columbus Automobile Club of Ohio has erected a number of checkerboard warnings at such crossings and other places of more than average danger, where conspicuous warning is advisable. It is believed that these signs, measuring 3 by 6 ft., will be effective in readily attracting the eye and will soon be recognized as a danger signal.

Late Delivery of Paper

If this or any other copy does not reach you at the usual time, please be patient. With the bad traffic conditions, caused by the severe weather, and the great reduction in train service to relieve congestion in freight, the post office department finds it extremely difficult to transport and deliver publications with the usual promptness.

We are mailing the paper at the regular time, and the unavoidable delay is in the post office department.

British Museum to Be Used for War Purposes

A London paper states that the government has taken over the British Museum to be used as offices for the Air Board. "The British Museum, which was founded in 1753, contains antiquities, drawings, prints, and a library of more than 2,000,000 volumes, besides numerous valuable manuscripts and charters."

Toledo Architect Wins Prize in Contest

Frederick Wells, Toledo, Ohio, won first prize in the architects' contest, which closed Dec. 27, at Columbus, Ohio. The contest, arranged by the American Institute of Architects, was participated in by 250 architects from all parts of the United States. Plans were submitted for a house of moderate price, limit $6,000. Other Toledo architects received honorable mention.

New York City's Lack of Coal Storage Facilities

The recent coal shortage in New York City has called forth many suggestions in regard to the solution of the problem. The manager of a coal publication states:

"There is only one way to remedy this situation, and that is to make New York over again. And that shows how difficult the problem is, even when things are running smoothly. There is no place in New York to store a large surplus of coal, and the reason is the high price of land and rent. It is a saying of coal men that New York architects forget to provide any place for coal. They have so many other needs to look after, and the space for all requirements is so restricted that any adequate provision for such a bulky thing as coal is brushed aside. If one result of this pinch is that future builders make provisions for larger coal bins it will be a distinct gain for the city."

XUM

New York Society of Architects

At the January meeting of the New York Society Architects, several questions of general interest had attention. One of those acted upon was a proposed amendment to the Tenement House Law, eliminating the three-family house from the tenement class. Chairman Emery Roth, of the Committee on Tenements, was instructed to confer with Mr. John P. Lee in regard to this matter.

It was also resolved that a bill be presented to the Board of Aldermen insuring that only licensed architects be allowed to obtain permits from the Building Bureau.

A statement was made by President Riely Gordon that the Association of Building and Allied Industries of New York are investigating and formulating plans for an increase of building operations throughout the country and he suggested that the New York Society of Architects might with advantage identify itself with that movement. Mr. Frederick C. Zebel was therefore appointed as delegate for the society to the Association of Building and Allied Industries, to offer the co-operation of the society in promoting the success of this fine enterprise.

Hotel Construction in New York in 1917

The year just closed saw, in spite of comparatively restricted construction, the partial completion, in New York City, of two large hotels and plans being prepared for others. The Commodore, which is being erected alongside the Grand Central Station, will have 2000 rooms, while the Pennsylvania Railroad has a project under way opposite its terminal that will have 2200 rooms, or 200 more than any other existing hotel. The Hotel McAlpin, the Waldorf-Astoria and the Prince George also plan extensive additions.

Prison Architecture

At a recent meeting of the Engineering Society of Rochester, N. Y., Mr. Lewis F. Pilcher, State Architect, and a member of the State Commission on New Prisons, gave an illustrated talk on the evolution of prison construction. He showed graphically conditions in Sing Sing prison covering a period of many years, and exhibited drawings of the new prison, hospital buildings and workshops to be built during the present administration. He gave a history of Sing Sing prison, describing the architecture of the building, and the unsanitary and unwholesome conditions which until recently had been permitted to thrive unchecked and unchallenged since its existence. About thirty slides were then thrown on the screen to present some of the improvements now gradually being effected in that institution.

Public Fruit Trees

A western paper suggests the substitution of fruit trees for shade trees along avenues and in parks. Cherry trees, apple trees, and several of our more common domestic fruit trees would make a much finer display in the spring than do the shade trees now growing, besides having the added merit of producing wholesome fruit later in the season.

Milwaukee's Recent Work

The Commissioner of Public Works in Milwaukee states that the year just ended was marked by distinct activity in every branch of public work in that city, and the accomplishments in the building field are regarded with satisfaction. A large number of improvements are recited to justify this feeling. The report of the bureau of street construction and repairs shows an increase in work performed over the previous year of $170,419. This is exclusive of sewer work costing about $348,455, and street sanitation at an expense of $190,000. The bureau of bridges and public buildings also had an active year, and about $576,208 were consumed by this department.

The central board of purchases was organized during 1917, which has outlined a course of operation that, it is expected, will thoroughly systematize that important branch of public service.

Two Housing Propositions

Among the many plans suggested for the proper housing of workmen employed in new war industries are those proposed by the Goodyear Tire & Rubber Company of Akron, Ohio, and another by the Committee on Workmen's Homes of the Philadelphia Chapter of the American Institute of Architects. The Goodyear company was one of the first of the big industrial concerns to attempt the solution of the problem, and, it is stated, "their program was inaugurated at first, not because of house shortage, but to better the condition of the workmen."

"The whole scheme of the present community, which is named Goodyear Heights, has been worked out with a view to the future growth of the city, so that no alterations will be necessary to conform to growth conditions. The company has also made it possible for its employees to obtain their homes at

actual cost price, and has worked out a plan for this purpose that is especially advantageous to them."

"A wide range is given in the selection of the type of house, and employees are permitted to choose types of houses reflecting their own choice as to type of architecture, so that a charm is given to the whole."

The second scheme is one suggested by the Committee on Workmen's Homes of the Philadelphia Chapter of the American Institute of Architects. In this case a strip of land on the west bank of the Delaware River between Wilmington and Philadelphia was selected, and, in general, two lines of workmen's houses are to be built between three lines of railroads. A line of factories along the river bank is in close proximity. Houses are to be placed in groups, "each group having its own churches, schools, stores, recreation and amusement facilities."

Resuming Abandoned Building Projects

It has been predicted that a large number of important building operations for which plans have been completed will have construction begun on them in the early spring.

"Probably," states *Record and Guide*, "the most crying need of the industrial situation to-day is a more efficient system of national employment agencies. . . . The industrial situation is dominated by the government from nearly every viewpoint. In the first place, the tremendous amount of money accumulated by the government is finding its way back into circulation through the medium of enormous orders for war supplies and huge construction contracts. . . . Although non-essential industries are being hard hit, another characteristic of government influence is the rapid speeding up of necessary production to activity hitherto unknown. To sum up the industrial situation briefly, the volume of business is relatively unimpaired, but the character of business is radically altered."

Women in War Time

The report of an investigation by the Merchants' Association of New York has now been published and presents an analysis of some of the problems arising from the employment of women in industry. The information is derived from a series of five conferences held between a Special Commission from the British Ministry of Munitions and a large number of employers of New York, New Jersey and Connecticut. The question of equal pay for equal work is again brought to the fore, and the inquiry is made whether the quality and quantity of work done by women is favorable as compared with that produced by men. The experience of the English in these matters since the war began has stamped approval upon the efforts and adaptability of women.

The conferences on which these statements were based were held for the purpose of informing employers here of the methods used in England to bring together capital, labor and the Government in order to supply munitions and other war essentials promptly and regularly.

Summarizing the results of that part of the report which has reference to women's work, it is stated that fewer accidents have occurred where women are employed in dangerous work; that the output of women on actual munition work, except of the heavier types, is rather greater than that of men; that women have shown no disposition to rebel against night work; that segregation of women has not been found necessary; that a certain amount of welfare work is being done under the auspices of a Department of Ministry, and that they are admitted to some of the labor unions.

Illinois Chapter, A. I. A.

Capt. Charles H. Hammond, president of the Illinois Chapter, American Institute of Architects, has resigned and Mr. N. Max Dunning, first vice-president, has been advanced to the presidency for the unexpired term. Mr. Daniel Burnham has been elected vice-president and Mr. Richard E. Schmidt as treasurer, the latter to fill the vacancy caused by the resignation of Mr. Charles D. Waterbury.

The following resolution, adopted at a joint meeting of the publicity and executive committees of the Chapter, was endorsed by the Chapter at a meeting held December 15th:

"Be it resolved, That it is the sense of this meeting, consisting of the publicity committee and the executive committee, that we are in favor of a standardized tablet of approved size and design with the name of the architect placed thereon, and under his name his organization or standing, A. I. A. or F. A. I. A. respectively, as the case may be, and that all architects who are members of the Institute be strongly advised to place this tablet against structures or improvements during the period of construction from the time the work is actually commenced until its final completion."

Mr. E. S. Matheny, architect, has closed his office in the Huntington Bank Building, Columbus, Ohio, to go to France, where he will do Y. M. C. A. work, near Paris, under the direction of E. Dow Bancroft.

XUM

Aids in Theater Lighting

The Brookins Company, Euclid Avenue and East Eighteenth Street, Cleveland, Ohio, in the production of their "Aislelite" plan to illuminate the aisles of darkened theaters. By the installation of this simple device this company state that flashlights can be dispensed with, and that the safety and convenience of theater patrons can be more assured. Many of the motion-picture houses, it is stated, are finding the "Aislelite" particularly useful.

Porcelain Specialties

The Fords Porcelain Works, Perth Amboy, N. J., with offices in principal cities, have issued a series of booklets, calling attention to their products. This company claims to specialize in the manufacture of laundry trays, kitchen and pantry sinks, lavatories, etc. Many plans and specifications are furnished in these catalogs, and considerable information in regard to this company's products.

Mason Safety Treads

The Mason safety tread, manufactured by the American Mason Safety Tread Company, Lowell, Mass., with branch offices in principal cities, has been on the market for many years, both in this country and in Europe, its manufacturers claiming that almost numberless accidents have been avoided by its installation. This product is also said to possess great durability, and can be attached to stairs of marble, cement, iron or wood. The material used in its construction is rolled, unperforated steel or brass, grooved, with lead or carborundum in the grooves. Several types of treads are manufactured, and in the company's catalogs a list is given of buildings where the product appears to have been successfully installed.

In these booklets attention is also called to the "Mason Non-Slip Products," which have been approved by the Underwriters' Laboratories, Inc. These are: Non-slip ladder shoes, Stanwood car step treads and platform gratings, Mason patented coal hole cove, Karbolith composition car flooring, and three types of safety treads.

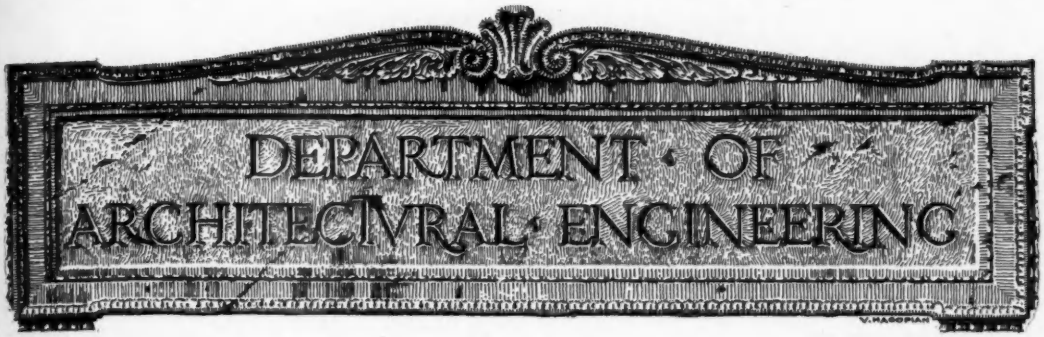
"U-Bar" Greenhouses

In a series of illustrated booklets the Pierson U-Bar Company, 1 Madison Avenue, New York City, with Canadian offices in Montreal, sets forth the advantages of their greenhouses, calling particular attention to the patented "U-Bar" construction device, as well as the curved eaves used in all the buildings manufactured by this company. Questions as to the proper heating of such buildings, various designs for their construction, and lists of patrons are given prominence. The company also states that they will gladly furnish plans, specifications, and estimates in regard to all subjects illustrated in their catalogs. The designs arranged for these greenhouses, and the material used in their construction would seem to meet all requirements.

Door Knockers

The origin and history of door knockers is the subject of an interesting booklet by the Art Brass Company of 299 East 134th Street, New York City. The material has been very attractively assembled.

The development of door knockers is followed through the classic Greek and Roman periods, into the Renaissance, with a consideration of their later varied treatments in different countries. The Colonial knocker has received particular attention, and is the subject of several of the accompanying cuts. The booklet is full of amusing details in the way of references to lives of men of note and bits of historical interest hinging upon the door knocker and its uses.



Modern Hospital Lighting--Part II*

By F. Laurent Godinez

Kitchens

IN the diet kitchen, and every kitchen which is a part of the hospital, sufficient light should be available to insure absolute sanitation. I said "should be," but unfortunately the hospital kitchen seems to have been selected by the electrical contractor as the most suitable spot to indulge in extravagant "economies," which are of no significance when cost-totals are computed. Kitchens require a ceiling-diffused light which renders visible the obscure corners of ovens and other recesses where cooking operations must be observed. There is no form of "local lighting" existent that will adequately illuminate oven interiors with the clarity of diffused ceiling light of sufficiently high intensity, and such a light is obtainable from either direct, indirect or, better still, a composite fixture possessing the advantages of both, but the disadvantages of neither. In the modern hospital kitchen every modern efficiency device known to the best restaurants is encountered, and all of these are electrically operated. Since it is quite impossible to determine the exact location of such appliances in advance, a liberal disposition of base-board outlets on a power circuit is indispensable. It is unwise to assign outlets for wall brackets unless the position of tables can be fixed, and where intense localized light is needed, better results obtain by making these fixtures a part of the furniture and connecting them to adjacent base-board outlets.

Corridors and Stairways

In analyzing the problem of corridors and stairway lighting we are confronted again with the question, born of modern radicalism, "Why the fixture?" With metal at a premium, and electrical conduits and conductors increasing daily in cost per foot, it is quite logical to consider ways and means of conservation in the cost of lighting installation. Long narrow corridors can be adequately lighted from dust proof, close fitting fixtures painted to match the ceiling, consisting of a metal holder, retaining a glass globe of low intrinsic brilliancy. The practice of including two lamps—one large and one small—within such fixtures is undesirable, owing to the cost of extra wiring and uneven illumination resulting. The better way employs the illumination of alternate units. Low, wide corridors may be treated in a similar manner, using larger globes, of one piece, or leaded glass, bent hot to any desired form. Where wiring outlets in rooms adjoining corridors are located on side walls, the plan of "breaking through" and placing a wall bracket in the corridor, with an inverted globe affording a means of semi-indirect lighting, is a fairly efficient makeshift for the better arrangement of lamps in continuous reflectors above door frames, previously described. The high corridor lends itself to the *camouflage* method of lighting where the source is concealed from view at a distance, being recessed within an embrasure capped by a flush port and fitted with diffusing glass of proper density; the lamp enclosed with an opaque reflector, designed to redirect the light through the diffusing media at the correct angle to avoid contact with the side wall. These methods eliminate the senseless fixture "stem" with its waste of metal and entire uselessness as a modern lighting accessory. Stairways are quite often illuminated by wall brackets at landings or near the intersection of walls. At best, these brackets are a makeshift, and are generally unsanitary. Opal cylinders with rounded ends, and "flanged" bases just large enough to inclose a small lamp, and fitted to the wall by invisible springs which tightly grasp the curvature of the lamp bulb, are absolutely inconspicuous, and if opal glassware of proper density is selected their contrast with a cream or buff wall is practically negligible. The point to be considered is that where several hundred

*Part I appeared in issue of January 23, 1918.

outlets are involved the saving resulting from advanced methods is a factor demanding recognition by the architect.

Obstetrical Delivery Rooms

The important feature about obstetrical room lighting installation is that frequently the bed capacity of such rooms is overtaxed, and a system of illumination designed to cover a normal working area does not cover abnormal operative conditions. The stand lamp is an ideal substitute for more elaborate and expensive arrangements, and possesses the peculiar advantage of elasticity or expansion with the operative growth of the room. These stands are very moderate in cost, but must be designed specially for each room. They consist of a heavy weighted base supporting a hollow cast pedestal, within which is an adjustable metal tube terminating in an electric socket, heavy shade-holder and reflector. The stand is fitted with noiseless, ball-bearing casters and can be shifted from bed to bed with ease. A hook on the pedestal supports a coil of reinforced cable which connects with any base-board outlet. The lamp used is generally a 500-watt Mazda C, and this unit, centrally placed, will provide ample illumination for a number of obstetrical operations within a considerable radius, in rooms of more than average size. One additional unit in long, narrow rooms will cover every possible emergency, and their adjustability insures conformity with the specific necessities of each operation.

Nurseries

Nursery lighting is really a special example of ward lighting. Its exceptional peculiarity is the frequency of attention necessitated by the class of inmates—infants—and the modification of the lighting system accordingly is subordinated in intensity. The arguments pro and con, general vs. local lighting, in the nursery become hair-splitting controversies, which are usually decided by the ruling opinion of the hospital medical board. When that august body is consulted and relieved of all superfluous theory, the principal contention appears to involve the respective merits of a low general illumination versus a typical local illumination obtained from wall brackets between beds. It is claimed by partisans of the latter plan that any uniform ceiling brightness, whether resulting from indirect or semi-indirect fixtures, is objectionable, operating as a distraction factor opposed to the repose of infants. Furthermore, such lighting reveals surrounding objects and the movements of operatives, affording another element of distraction. On the contrary, with local lights between beds, the ceiling is dark and the room is dark, adjoining beds being screened during supervision of individual inspection or treatment. It is agreed that under no conditions should local lights be placed *over* beds, casting their rays directly into the infant's eyes, nor should the section of the globe facing the opposite side of the ward transmit sufficient light to disturb patients opposite. Here again the perpetual vexation of permanence in bed placement is encountered. Outlets assigned cannot be changed, but bed position is and always will be a variable factor in hospital wards. I have solved the problem with entire satisfaction in several instances by resorting to that symbol of adaptivity—the base-board outlet—in connection with a very simple stand lamp, consisting of a 4-ft. pedestal attached to a weighted base and fitted with one upright socket over which

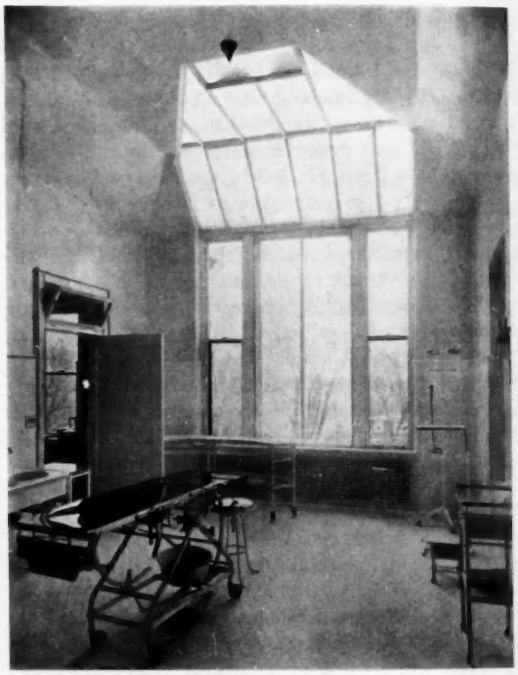


Fig. 5. This exceptionally designed skylight provides adequate daylight illumination for the operating table without the assistance of artificial illumination. Attention is directed to the construction of the skylight with reference to the proportions of the interior and the location of the operating table. Attention is directed to the electrical floor outlet, and the convenient location and grouping of the control switches at the entrance. There are numerous base board outlets conveniently placed which are not visible in the photograph.

an adjustable shade holder is fastened. The variable position of the shade assists in directing the light exactly where it is necessary, and confining it there. Another refinement is the addition of "dimming" sockets, facilitating the gradual turning up and down of the light with a proportional saving in energy consumption. A dim light is sufficient for skilled inspection, and the patient is not awakened by the flare of a bright light. Of course, the white

bedclothes reflect a considerable amount of light on the ceiling. Considering the small lamps used, this disturbance is of no relative importance. The lamp stands may be used as required, and constructed in proportion to the growth of the work, thereby saving quite an item of installation expense. When not in use they are placed out of the way by the wall, between beds, and the short connecting cord is non-obstructive.

Private Rooms

Private room lighting is another application where the stand lamp insures economy of installation, operation and maintenance, adapting itself expansively to the number of occupants in each room. The extremely modern idea of considering the individual patient and his comfort by discarding old arrangements which are a convenience to one patient and an inconvenience to another is beginning to dawn upon the horizon of modern hospital lighting. Of the elaborate private rooms of wealthy patients little need be said. They are the exceptions (to everything but death), which prove the general rule, and the architect can only accommodate the whims of their unknown occupants by providing sufficient baseboard outlets to conform with any desired arrangement of furniture. The practice of installing ceiling outlets wired to control switches, but capped flush to the ceiling, is an admirable method of disposing of an "unknown quantity."

Ward Lighting

In ward lighting we encounter the really "big" physiological problem of hospital lighting. It is here that poor unfortunates, weakened in mind and body, with nerves on edge and violently aggravated by normally insignificant disturbances, are forced to lie day after day, under conditions which, at their best—are none too tolerable. I have seen wards lighted so crudely in Jersey City hospitals that patients in opposite beds, whether lying or sitting, could not avoid the brutal glare of exposed Mazda lamps directly in their field of vision—lamps which even healthy persons could not look at without "squinting," "brow-puckering" and other signs of acute optical distress. There is no excuse for the installation of such lighting, and it should be classed with other, and much less injurious, criminal offenses. The directional influence of light is acutely prominent in ward lighting. The lamp may be concealed from view, yet sharply reflected rays of light will enter patients' eyes, causing extreme pain, due to the concentrated and continued muscular effort involved in pupillary contraction. This is comparable to the fatigue experienced from attempting to hold one's arm at right angles to the body, but is followed by a more severe and lasting depression of visual function, and a reflex action evidenced by symptomatic nerve-tension. I am firmly convinced that the modern hospital ward of the near future will afford a clear and clean expanse of ceiling, unmarked by "fixtures" of any sort. Such general lighting as is necessary (and its necessity is questionable, except in the emergency of fire or similar catastrophe) will be obtained from "diffusing floor plates," placed at regular and infrequent intervals, and confining their reflected light upon the ceiling without visible spots or striations. These lights will be controllable from ward stations, and will illuminate individual sections of the ward with any desired degree of intensity. Floor stands, as described for

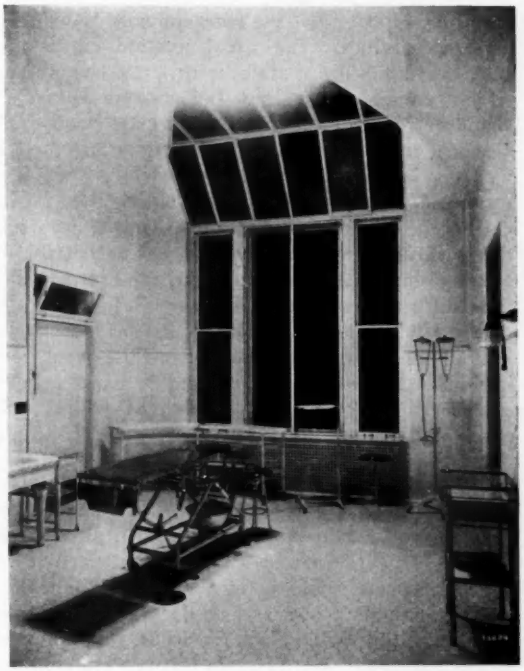


Fig. 6. A night photograph of the same operating room (Fig. 5) showing the result of ideal illumination without fixtures. A group of large lamps in powerful reflectors carefully designed to redirect the light within the operative area are concealed above the small square skylight (Fig. 5). The very high intensity of the illumination is indicated by the heavy shadow projection of the table upon the floor below. The absence of halation in the picture proves that the reflected rays of light are projected vertically downward without entering the lens of the camera. Highly modernized lighting of this sort is only possible when the architect and the lighting manufacturer predetermine the solution of such special problems by co-operation.

nursery wards, will be between beds, and these also will be adjustable for patients who desire to read in bed, enabling them to do so without annoying their convalescing or dying neighbor. Attached to these stands, within reach of the weakest hand, will be the call buttons connecting with the supervisor and ward nurses' desks, and a circular shelf, forming a permanent or detachable part of the stand,

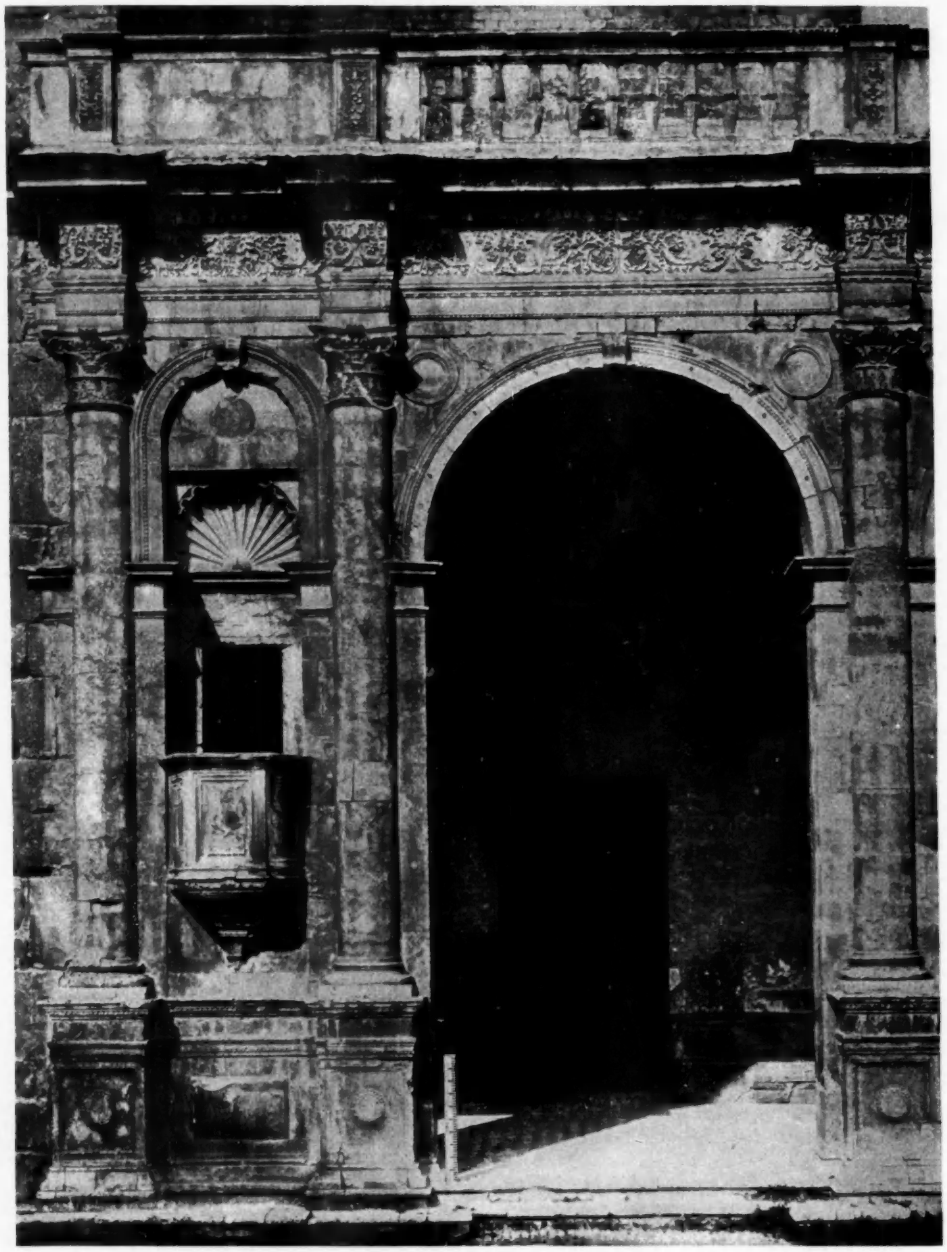
will prove a valuable adjunct. Study the problem of ward lighting from all angles, and you will become convinced that the general illumination of the ceiling at all times is *not* the correct solution of the problem. How many healthy, normal men (excluding the nervous sex) can sleep in a room with a brightly lighted expanse of ceiling directly over their heads?

The Operating Room

At any hour of day or night the operating room must be made ready on short notice, and always there must be light, and plenty of it, regardless of daylight conditions. The principal focus for light is on the operating table, but to concentrate it there without glare from exposed illuminants or directional effect, is one of the most difficult problems of applied lighting. The usual method consists of the inevitable drop stem with cross-arms from which dangle large-sized bulbs—unprotected by shade or reflector—unmatched as glare productors. Because most surgeons have been accustomed to working in operating rooms with white walls, ceilings and floors, the resultant daylight diffusion makes the sharply defined angles and shadows of the artificial lighting seem too great a contrast for effective manipulation. In effect, the extreme daylight diffusion is comparable to the indirect lighting of the kitchen ceiling, which by its diffusive action illuminates the innermost recesses of the oven. Similarly the deepest regions of wounds are clearly revealed by the combined diffusion of white walls, floors and ceiling, flooded with daylight. At night when the light above the operating table constitutes the main source of light, the diffusive reflection of the floor prevents any suggestion of darkness in the room, but the subject lies revealed in sharply defined, downward rays, cutting the dust-particles of the atmosphere with distinct visibility. The surgeon inserts his probe, and its deep shadow is projected and lost in the black, invisible, unilluminated recess behind it; in effect, the diametrical opposite of a daylight operation. Then the surgeon is forced to rely upon his hand "spotlight" to explore the mysterious regions of the excavation. To produce shadowless illumination, the object to be illuminated must receive equal light from all directions. One method employs the drop-stem with a series of spokes, radiating from a central hub and terminating in pendent sockets with reflectors designed to concentrate the light centrally. When supplemented by an auxiliary diffuser, utilizing the reflecting wall and ceiling area, this plan is effective but unsanitary, owing to the numerous dirt-collecting surfaces. This arrangement is infinitely better than the cross-arm fixture with bare bulbs which seems to be the approved standard throughout Jersey City hospitals.

Heat localization is almost as much to be avoided as glare. The arrangements described naturally concentrate both light and heat rays on the subject and operative. An improved method comprises a metal frame, covered at the base with diffusing glass, and housing the lamp equipment, which is in duplicate, for "safety first." An ingenious system of ventilation has been employed which is entirely effective in reducing heat localization through a series of ventilation ports and baffles, which prevent dust deposits and insure against falling dust particles. The fixture is suspended on counterbalanced supports so that perfect adjustability is assured. While most of the light flux is confined to the operative area, sufficient excess radiation is allowed to spread so that floors, ceilings and walls combine diffusively to relieve acute shadow projection, as illustrated. The highest intensity of the light and its maximum direction appear unmistakably in the picture as evidenced by the depth of shadow, directly beneath the operating table. A highly modern plan for closely approximating daylight efficiency is illustrated, where photographic comparison reveals a surprising similarity, resulting from the concealment of lighting projectors behind and above the central section of the skylight. The old outlet, from which the old conventional type of fixture was suspended, appears "capped" directly adjoining the light projection panel. One very vital feature which has been entirely neglected in planning the light equipment of operating rooms is the personal (visual) equation of the operators. No two surgeons possess the same visual characteristics, on account of the shaping which their optical organs have received from individual usage and custom. The intensity of light which enables one physician to operate with the highest degree of visual efficiency will absolutely prevent his optical antithesis from working with safety. It is the blinding, misdirected glare of these exposed operating lights which has been responsible for the satirical anecdotes regarding the proclivity of surgeons who have been known to lose "sponges, knives, scissors and other impedimenta" during the process of "sewing up" the patient. Adjustability of intensity should be included, with local control from the fixture or remote control from the wall switch, and last but not least a storage battery equipment capable of carrying the operating light for several hours is a vital adjunct, in cases where severe storms or other unforeseen catastrophes disorganize local or outside electric service. An interval of darkness for one second might prove fatal at certain critical stages of major operations, and such intervals can be avoided by a reserve source of energy controlled by an automatic switch which operates in one three-thousandths of one second, maintaining light without perceptible interruption.

XUM



ENTRANCE DETAIL

THE CATHEDRAL—SPOLETO, ITALY (11th-12th CENTURIES)